DOCUMENT RESUME

ED 085 843 EA 005 724

AUTHOR Koritzinsky, Katherine M.; White, Steven J.
TITLE IGE/MUS-S: An Instructional Management System for Secondary Schools. A Report.
INSTITUTION Wisconsin Univ., Madison. Research and Development Center for Cognitive Learning.
SPONS AGENCY National Inst. of Education (DHEW), Washington, D.C.
REPORT NO TP-44
PUB DATE Aug 73
CONTRACT NE-C-00-3-0065
NOTE 78p.; Project on models for IGE-MUS-Secondary

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS Continuous Progress Plan; Decision Making; Educational Change; *Educational Innovation; Educational Objectives; Individualized Instruction; *Individualized Programs; *Instruction; *Management; *Multiunit Schools; Parent School Relationship; Secondary Schools; Systems Approach
IDENTIFIERS IGE; *Individually Guided Education

ABSTRACT

Individually Guided Education/Multiunit Schools-Secondary (IGE/MUS-S) is a research and development project currently in operation at the University of Wisconsin. As often happens in education, the operational need for the project was so great that it came into existence before it was formally justified in theory. This paper attempts to discuss the three major areas dealing with the IGE/MUS-S project. It provides the missing theoretical base by explaining in comprehensive form the significance and purpose of the project. IGE/MUS-S is described in terms of its operation as a project in the Wisconsin Research and Development Center; its commitment to an IGE system that provides continuous progress towards mutually established goals; its primary analytical tool--a 3-part division of the functions of education; its role in the ongoing process of change and innovation in education; problems that plague the educational process; and a set of 50 working statements on learning psychology. The paper also presents a general model for an alternative educational program, reviews current developments in the seven component areas that provide the focal points for the project, and discusses strategies and plans for implementation and future development. (Author)

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THEORETICAL PAPER NO. 44

IGE/MUS-S: AN INSTRUCTIONAL MANAGEMENT SYSTEM FOR SECONDARY SCHOOLS

by

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and
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Report from the Project on
Models for IGE/MUS-Secondary

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August 1973

EA 005 724

Published by the Wisconsin Research and Development Center for Cognitive Learning, supported in part as a research and development center by funds from the National Institute of Education, Department of Health, Education, and Welfare. The opinions expressed herein do not necessarily reflect the position or policy of the National Institute of Education and no official endorsement by that agency should be inferred.

Center Contract No. NE-C-00-3-0065

Statement of Focus

Individually Guided Education (IGE) is a new comprehensive system of elementary education. The following components of the IGE system are in varying stages of development and implementation: a new organization for instruction and related administrative arrangements; a model of instructional programing for the individual student; and curriculum components in prereading, reading, mathematics, motivation, and environmental education. The development of other curriculum components, of a system for managing instruction by computer, and of instructional strategies is needed to complete the system. Continuing programmatic research is required to provide a sound knowledge base for the components under development and for improved second generation components. Finally, systematic implementation is essential so that the products will function properly in the IGE schools.

The Center plans and carries out the research, development, and implementation components of its IGE program in this sequence: (1) identify the needs and delimit the component problem area; (2) assess the possible constraints—financial resources and availability of staff; (3) formulate general plans and specific procedures for solving the problems; (4) secure and allocate human and material resources to carry out the plans; (5) provide for effective communication among personnel and efficient management of activities and resources; and (6) evaluate the effectiveness of each activity and its contribution to the total program and correct any difficulties through feedback mechanisms and appropriate management techniques.

A self-renewing system of elementary education is projected in each participating elementary school, i.e., one which is less dependent on external sources for direction and is more responsive to the needs of the children attending each particular school. In the IGE schools, Center-developed and other curriculum products compatible with the Center's instructional programing model will lead to higher student achievement and self-direction in learning and in conduct and also to higher morale and job satisfaction among educational personnel. Each developmental product makes its unique contribution to IGE as it is implemented in the schools. The various research components add to the knowledge of Center practitioners, developers, and theorists.

All that has been said of the importance of individuality of character and diversity in opinions and modes of conduct involves, as of the same unspeakable importance, diversity of education. A general state education is a mere contrivance for molding people to be exactly like one another: And as the mold in which it casts them is that which pleases the predominant power in the government, whether this be a monarch, a priesthood, an aristocracy, or the majority of the existing generation in proportion as it is efficient and successful, it establishes a despotism over the mind, leading by natural tendency to one over the body. An education established and controlled by the state should only exist, if it exist at all, as one among many competing experiments, carried on for the purpose of example and stimulus, to keep the others up to a certain standard of excellence.

John Stuart Mill
On Liberty, 1859

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Abstract

This theoretical paper attempts to discuss the three major areas dealing with the IGE/MUS-S project. The paper provides the missing theoretical base by explaining in comprehensive form the significance and purpose of the project. IGE/MUS-S is described in terms of its operation as a project in the Wisconsin Research and Development Center; its commitment to an IGE system which provides continuous progress toward mutually established educational goals; its primary analytical tool--a three-part division of the functions of education; its role in the ongoing process of change and innovation in education; problems which plague the educational process; and a set of 50 working statements on learning psychology. The paper also presents a general model for an alternative educational program, reviews current developments in the seven component areas which provide the focal points for the project and discusses strategies and plans for implementation and future development.

I
Basis for the Project

Introduction

IGE/MUS-S is a project of the Wisconsin Research and Development Center for Cognitive Learning, located at the University of Wisconsin, Madison. As often happens in education, the operational need for this project was so great that it came into existence before it was formally justified in theory. This paper attempts to do three things: (1) provide the missing theoretical base by explaining in comprehensive form the significance and purpose of the project, (2) present a general model for an alternative educational program and review current developments in the seven component areas which provide the focal points for the project, and (3) present strategies and plans for implementation and future development.

Administrative Origins

To begin it might be well to sketch a brief history of the Wisconsin Research and Development Center, since its founding concepts are ancestral to and integral with those of Individually Guided Education in the Multiunit School-Secondary. The center itself was founded in 1964 by Professor Herbert J. Klausmeier with funding from a USOE grant program. Its sole emphasis until quite recently was to develop programs and devise suitable structures for use in elementary schools, under a system called "Individually Guided Education" (IGE). The Individually Guided Education/Multiunit Elementary School model is an *instructional system* calling for flexible and individualized instructional practices within the framework of a unique pattern for organizing resources. The main features of this system have been described by Frank Chase: "(1) attention is focused on the individual learner; (2) systematic problem solving is applied by educators to educational problems; (3) unit structure is employed to provide a healthy group size for learning; (4) staff training is made an essential part of the approach; and (5) autonomy and accountability are kept in balance" (8th Annual Report, 1971-72). Currently, IGE programs have been developed in reading, math, motivation, and prereading for use in individualized settings such as the multiunit organization. Because the unit organizational pattern used for grouping is such a prominent characteristic in schools using the IGE system of reading or math, these schools have become known as Individually Guided Education/Multiunit Elementary Schools (IGE/MUS-E). During 1971-72 the number of IGE/MUS-E's in the United States increased dramatically; at the beginning of the 1972-73 school year the operating number was about 1200 schools in 14 states. Having had such success at the elementary level, it was inevitable that the IGE system would be extended to the secondary level.

Because of the strong stimulus provided by participants in MUS-E schools, informal pressures for development of a secondary-level application of IGE reached fruition in 1972. Thus, IGE/MUS-S was founded (the "E" for "elementary" was replaced by "S" for "secondary"), and the search for practical modes of operation to implement IGE in secondary schools was begun. While the urgency of pressure from the field hastened the decision to start MUS-S, it was more a matter of committing funds to existing plans than of starting from scratch. The secondary school system of education that is eventually formulated by the project will likely abandon the multiunit school organizational pattern as found in the elementary school, but at present the title IGE/MUS-S identifies it as an IGE system of education in the MUS-E tradition.

To appreciate past and present substantive needs of the project, it is necessary to

understand events within the project to date. The following list of highlights should assist the reader in understanding the sequence of events that has led to current operations of the project:

January 1972

Professor Stephen J. Knezevich and Russell Way of the Wisconsin Department of Public Instruction prepared for review by selected professionals the first theoretical paper proposing use of IGE at secondary school levels.

April 1972

Professor Knezevich used a revised draft of the theoretical paper as the focal point of an "Invitational IGE/MUS-S Professional Workshop." A second workshop was scheduled for May but never materialized due to extensive revisions suggested in this first workshop.

June 1972

Professor Knezevich submitted a final revision of the original theoretical paper for publication as a working paper.

July 1972

Dr. Wayne Benson was hired as project coordinator to work directly with Professor Knezevich.

August 1972

Professor Knezevich left the R & D Center to pursue professorial duties full time within the Department of Educational Administration.

September 1972

Steven J. White, a graduate student in Educational Administration, was hired as a project assistant to work on the project 50% of the time; Katherine Koritzinsky was hired as a project specialist to work 40% of the time on the project. Dr. Benson left the project temporarily to undergo surgery.

November 1972

In the absence of Dr. Benson, Dr. William Bush, Deputy Director of the Center, supervised a model development task force of invited members to finalize the design of a secondary-level IGE model based on the Knezevich and Way paper.

Dr. Benson returned on a part-time basis, and in reviewing the results of the task force meeting with his project staff, decided to expand certain major features of the Knezevich and Way model and begin anew

December 1972

A student task force meeting was convened by the project to obtain basic input on a new model from students in the Madison area secondary schools.

A MUS-S newsletter was prepared for January mailing.

January 1973

Preparation of a general mailing list was initiated based on response to the first newsletter.

Two graduate students, Kathe Heterick and Raymond Schultz, were added as project assistants to work half-time on the project.

February 1973

New models for the MUS-S project were finalized.

Preparations for the NIE budget were completed for the project.

A needs and specifications paper was proposed which would include a description of the MUS-S project and provide a basis for R & D activities at the secondary level.

March 1973

The project hosted a teacher/principal task force meeting to finalize the design of the second-generation secondary-level IGE model. This meeting substantiated the revised design.

Preparations, including extensive field visits and presentations, were initiated to locate and obtain pilot situations for the September 1973 school year.

Preparation of staff development training materials was begun.

April 1973

The needs and specifications paper was completed.

Philosophy of Continuous Progress

The project (IGE/MUS-S) is a particular response to a problem that permeates all of education today. That is the problem of having students judged as failures or as being incapable of better progress because they do not fit the format of the present educational system. The project does not pretend to offer a final solution to this problem; its promise is that it will help lead to a workable solution.

Unlike most educational innovations, IGE has attempted to cure faults in the educational system by means of a comprehensive alternative system rather than a series of patches and repairs. The mission of the project has been and continues to be the creation of an alternative approach to educational practice at the secondary level within the framework of IGE. Therefore, the project is directed toward purposes which are evolutionary in nature, not revolutionary. Products of IGE/MUS-S are neither parallel to nor removed from existing practices. In short, our *raison d'être* is to provide an alternative management *system* for instruction within the present educational framework for those educators and communities who seek to modify or abandon certain traditional practices. Providing the stimulus for individual initiative in this effort is the belief that many contemporary needs in education would be better served by new approaches toward instruction and learning. It is not our intent to be critical of existing public schools or to compete with them, but rather to offer an alternative, a service to those who express interest, concern, and commitment to our IGE system of continuous progress.

Encompassing the entire project is the concept of continuous progress which forms the basis for IGE and other instructional systems designed to provide a high degree of individualization for students. It supersedes all attempts of the project to solve practical problems. The extent of individualization can vary considerably, but in each case one reaches the essential conclusion that failure of a student to learn is as much a fault of the system as a fault of the student. This is especially true at younger ages. Thus, when an educator decides to seek alternative and more effective ways to educate, he is actually accepting a degree of responsibility for student failure or lack of adequate progress in learning. Just such a search for alternatives led to development of the IGE system. Therefore, continuous progress is seen by this project as the embodiment of a philosophy in which educators share responsibility for student failure as well as success.

While the philosophy of continuous progress is not dependent on any one set of practices or system of education, the project accepts the belief that student progress can best be defined and facilitated by use of the instructional programing model. Use of this model promoted measurable progress by every student toward attainable goals without time constraints. Use of the model at the elementary-school level served as a vehicle for achieving continuous progress through individualization and suggested other operations that became component parts of an "educational system." Although several of the operations in that system had been used separately for many years, mixing them in a coherent blend made the resultant system unique. The particular blend at the elementary-school level became known as IGE, and assumed a quasi-philosophy of its own. It is a packaged product, but it retains a high potential for manipulation and tailoring to suit local situations.

It is the hope of the project to begin with the same philosophical base as found in continuous progress, to adopt the same foundation of instructional programing, and to use a system approach as found in IGE/MUS-E to produce an alternative system of secondary education that will duplicate the success of the elementary-school system.

Approach

Despite widespread challenges to traditional practices, the project recognizes that the goals to be accomplished through education remain fairly constant through time. The Governor's Task Force on Education in Wisconsin defined the goals of public education in eleven different areas: (1) self-realization, (2) human relations, (3) basic skills, (4) mental and physical health, (5) career education and occupational competence, (6) cultural appreciation, (7) lifelong learning, (8) citizenship and political understanding, (9) economic understanding, (10) physical environment, and (11) creative, constructive, and critical thinking. It seems fair to say that challenges to traditional practices often center on an inability of education to fulfill these types of goals for *all* students, rather than an inability to fulfill the goals per se. Broad, generalized goals, however, are often more confusing than helpful in determining proper activities and programs. New approaches and techniques must grow from a clear understanding of current practice and continuing concerns.

To understand and deal with general needs and problems for which specific answers must

be forthcoming, the project has defined education as a network of three component functions: schooling, training, and enlightenment. While these functions are not mutually exclusive in practice, they are valuable concepts in providing focal points for analysis of educational goals and activities.

The first of these, *schooling*, is composed of knowledge and skills which must be taught to and learned by all students (Coleman, 1972). An example is the proverbial and elusive three R's, which at one time were taken to be the sum total of education. Another definition might say that schooling consists of things which all reasonable educators can agree have to be learned at some point. A phenomenon of recent times is that the core of knowledge necessary to be successful and productive in our society continues to increase, so that what may have been "superfluous" learning a generation ago has now become "essential" learning. Of course, one can argue that such demands for advanced levels of education for the general populace are artificially contrived for the sake of an economic meritocracy. It is such differences of opinion that prevent agreement over the precise content in schooling which would clearly separate it from training and enlightenment.

Training is that education which provides skills and information necessary for a distinctive and productive role in society beyond mere subsistence. Trade and commercial training fall into this category fairly easily, and certain aspects of such studies as English and social studies are necessary for a number of occupations. Training can also consist of behavioral traits or characteristics which are either taught or reinforced in a school situation and which are considered necessary to a particular occupational status. The primary difficulty in isolating the training function is that students often receive training which they never fully utilize, yet which broadens their understanding of themselves. Furthermore, a student might elect to become trained purely for personal pleasure, then decide to use that experience in a productive fashion at some later date.

Enlightenment is a function of education that has no material justification beyond its intrinsic worth to an individual. In some cases the search for enlightenment by a scientist becomes theoretical research that may precede progress at the practical level. But the purpose behind education for enlightenment is not based on practical reward. The reward is an inner happiness or contentment which, like a hobby, means enduring long hard hours of drudgery that one would never accept for financial rewards. Content in this area can be thought of as esoteric and philosophical in the classical tradition.

In each of the three functional areas just defined there are two levels for setting goals: general and specific. For instance, in schooling general goals might be learning to read, learning to perform arithmetic operations, and understanding civic organization. Such goals tend to set direction rather than suggest an activity. Specific goals clearly state the vehicle which is to be chosen to accomplish the general goal. An example within learning to read is to spend two months reading short stories to sharpen one's reading skills. Examples of general and specific goals in training are: become an author (general), and write a half-page paragraph about your vacation (specific). Examples of enlightenment goals: become knowledgeable about great minds in man's heritage (general); study the philosophies of the great men of history (general); read Plato's Pliny (specific).

Although this treatment of the three functions of education is admittedly brief and incomplete, it is sufficient to serve as a backdrop to a presentation of current problems and needs as identified by the project. It helps to understand the thrust of certain programs and organizational patterns generated by the project and to grasp the rationale for anticipating certain outcomes from them. IGE/MUSS purports to utilize these theoretical insights in its search for alternatives. Traditionally, all goal setting in the functional area of *schooling* is reserved for professional educators, who in turn elicit limited input from lay leaders in setting the general types of goals. There is virtually no formal structure for student input in the realm of schooling, for students are not deemed capable of deciding what knowledge is essential for subsistence in society.

In the realm of *training*, students in high schools have had a limited input in establishing general goals; however, it is useful here to point to the difference between being able to select an option from an array as opposed to originating an option unfettered by anything but imagination. With assistance from their families students have usually been able to select from several possible career choices. The choices are usually general business, precollege (gateway to a new array of choices), trade/vocations, and dropping out. Once the general goal has been established by the student, the professional again begins to determine the type of instructional vehicle needed to achieve the goal; series of courses, sequence of exposure to operations, and so forth are all prescribed by the instructional staff.

Decisions concerning goals in the area

of *enlightenment* tend to be the reversal of the situation in training. Here professionals set all of the long-term general goals, within which students have a range of specific choices according to individual preferences. Thus, once a long-term goal such as learning U.S. history has been set, students often have the option of deciding which era to study. Or students in a literature class may select from a wide range of readings. To a lesser extent students can choose specific courses to take in achieving general learning objectives which have been prescribed by professionals.

The aforementioned pattern of goal setting and decision making toward which traditional secondary-school practice leans can be charted in this fashion:

SCHOOLING	TRAINING	ENLIGHTENMENT
general - professional	general - students	general - professional
specific - professional	specific - professional	specific - students

Again, it must be stressed that this explanation of current practice is simply to provide a theoretical base for analysis and communication of problem areas that occur in educational practice.

Using the three functions of education and the general and specific realms of goal setting found within each functional area, it is possible to study more closely those pressures for change that are being felt in secondary education. It has already been suggested that achievement of the goals of education must not only be successful for *all* students, but must be achieved at an optimal level for those who are currently finding limited success. In addition, it is a premise of the project that rather substantial modifications are imminent for the manner in which goals and activities are selected. In the area of schooling, there are identifiable trends toward a lowered age of emancipation and toward noncompulsory attendance. These trends restrict the amount of *schooling* that will be required of students at secondary levels. Bills of rights and administrative organizations to facilitate them will further erode the monopoly over *schooling* that has been held by professionals, since arbitrary changes or alterations in curriculum may necessitate joint action. Recognition of the accelerated rate at which some students assimilate their basic schooling has caused concern over finding appropriate activities and points of input for such students. Many students seek *training* experiences outside the normal domain of the public schools, which means the offerings which enable students to pursue pure self-enlightenment may have to be expanded. The most significant change that appears imminent is that students will have a clear voice in expanding their range of choices in the realms in which they already speak: general courses in *training* and specific learning experiences in the realm of enlightenment.

The foregoing statements have outlined a dual approach to problem solving at the secondary-school level. The first phase, commitment to an IGE system within the framework of continuous progress, mandates that professional techniques and operations within the school be adjusted to ensure that each student can maximize individual achievement of educational goals. The second phase, realignment of forces within the goal-setting process itself, stresses that it is impossible for the school to maximize goal attainment by students if the students have no voice in stating desired outcomes. This latter consideration becomes critical as students approach adulthood in senior high school.

Review of Applicable Innovations

IGE/MUS-S is not the first attempt to respond to shortcomings in educational practice at the secondary level. It may be unique in using a systematic problem-solving approach, but many past innovations which have been spawned in isolation will be found in IGE at the secondary level. It will be helpful at this point to examine briefly some of the innovative strategies that have been generated by others: first, to evaluate their suitability for application in IGE; secondly, to examine the reasons for their success or failure; and thirdly, to determine what problem each sought to answer.

No educational program is totally satisfactory. Indeed, the complexity, rate of change, and contradictions in values of American society make the task of innovation an especially difficult one. There is ample reason to expect disenchantment with education's failure to be all things to all people. In response to pressure for change, educators across the nation have utilized federal legislation, private foundations, educational leaders, eminent scholars, national curriculum groups, and societal forces to generate new ideas. The quantity of inno-

vations produced has been staggering. They have included differentiated staffing, paraprofessionals, team teaching, interaction analysis, large-group instruction, independent study, year-round schooling, flexible scheduling, educational TV, video recording, nongraded schools, tracked schools, school-within-a-school, and schools without walls. Unfortunately, we are not able to discuss each of these innovations. However, we have chosen to concentrate on team teaching (Shaplin & Olds, 1964), alternative teaching (Smith, 1973), and scheduling (Wiley & Bishop, 1968) as key developments that have added to the foundations of our project.

Those who have been most heavily involved with innovation agree that problems in training, leadership, professionalism, and community have caused the greatest difficulty in effecting change. In the area of staff training, educators often have never learned how to conduct meaningful workshops, and the majority of teachers have not carried the messages from the workshop to the classroom. In many cases preservice college education and graduate training seem to produce obsolete programs and instruction. Considering leadership, too often the charisma attached to the administrator and his staff disappears when they leave a district. The original innovators are almost always replaced by moderates. Another failure in the leadership area is that procedures for ongoing change through involvement of students and staff are not built into the mechanism of the school decision-making process. In the realm of professionalism a major problem of maintaining momentum in an innovative school is that the staff reaches a point of satisfaction and never moves beyond it. Central office rules and regulations traditionally and professional agreements more recently have inhibited many schools attempting change. Regarding community, a major factor is that social and economic conditions may change its complexion. For instance, liberal communities may become conservative as a result of a limited financial base.

Team Teaching

Shaplin and Olds (1964, pp. 24–57) trace the origin of team teaching, beginning with the crisis period in American education following World War II. The major factors of this school crisis were the persistent shortage of teachers and the rise of the national birth rate. In the 1950's the crisis was accentuated by a mounting crescendo of criticism directed against the schools. This threatened their capacity to recruit and retain teachers and to obtain funds necessary for development and expansion (ibid., p. 30).

Out of all the criticism emerged a climate favorable to change. Certain major directions were clear. A search took place for ways to create attractive new teaching positions with greater status, rewards, responsibility, and to improve the utilization of the existing teaching staff and facilities. Changes in the recruitment, training, and certification of teachers provided increased collaboration between the schools and universities. A growing willingness and desire on the part of university personnel to work with schools made university training programs possible.

There were many types of efforts to provide more attractive and satisfying career opportunities in teaching through "position and rank" systems of classification. Of these, team teaching was just one of a group classified as "staff utilization" studies. It is unlikely that team teaching could have taken root unless it had been directly preceded by other projects devoted to similar but less comprehensive aims. First, many of the new teacher education programs placed heavy reliance upon apprenticeships and internships under the guidance of "master teachers" in the schools. Other projects explored the possibility of using teaching assistants or aides to free the teacher from clerical and other nonteaching duties. The Contract Correcting Project in Newton, Massachusetts, in which educated women served as readers for English teachers in order to permit heavier writing assignments for students was one example of the use of teaching assistants rather than clerical assistants.

There was a widespread effort to provide a broader audience for the highly skilled teacher by allowing him to lecture to large groups of students. Schools such as Newton High School in Newton, Massachusetts, and Evanston Township High School in Evanston, Illinois, concentrated upon developing large-group lectures.

A search took place for ways to create smaller human organizations within the larger-sized school structures. Interest in previously designed plans such as the campus plan, house plan, and decentralization of the large school was evident. Shaplin and Olds (1964, p. 34 ff) provide a history of the variety of administrative and instructional plans designed to bring flexibility into school organizations to allow for a greater variety of students for instruction and to provide opportunities for individualized instruction. Plans that were revised and studied during this time included the Winnetka Plan and Dalton Plan, developed around the 1920's, which emphasized individual rates of progress

through successive stages of the curriculum. Another model, the Dual Progress Plan, made the distinction between subject matters designated as "the cultural imperatives" and "the cultural electives." The Dual Progress Plan had close kinship with many team teaching plans because of the mutual concern for specialization in teaching, ability grouping, and sequential, nongraded progress in certain subjects. The Cooperative Group Plan, developed by James F. Hosic in the early 1930's, had much in common with present team teaching. Its primary purpose was to provide for individual differences of pupils, teachers, principals, and communities. Each teacher was responsible for only a part of the education and guidance of pupils, and each teacher was a specialist in a group of subjects or activities with a classroom designed for the specialty. Since the pupils in the group covered more than one grade, cross-grade instruction and continuous pupil progress were possible.

"Packaged" course material with textbooks, teachers' guides, supplementary materials, films, and laboratory equipment were developed in an attempt to revise the total school curriculum and provide for more efficient instruction and continuous pupil progress in specific areas. A search for ways to apply technological innovations in instruction brought educational television, improved audio-visual devices, tape teaching, and programed instruction to the schools. Each of these developments required new adaptations in school organization including changes in existing teaching roles and responsibilities, and the creation of specialized jobs and new cooperative working groups within teaching. Instruction was affected in two ways: mass instruction through lectures, movies, television, and demonstrations was possible, and individualized instruction through language laboratories and teaching machines was introduced.

Thus, team teaching was not a radical educational innovation but the synthesis of a number of long-standing trends toward improved quality in education. These trends were concerned with the relationships among members of a working group, definitions of new roles and types of specialization, and group organization under the assumption that these new techniques would lead to greater efficiency in carrying out existing instructional goals. Team teaching became a panacea for known and suspected problems and a preventative for potential problems.

In 1956 the National Association of Secondary School Principals placed Dr. J. Lloyd Trump in charge of the Commission on the Experimental Study of the Utilization of the Staff in the Secondary School. In his discussion of this commission Shawner (1968, pp. 21-25) states that the Commission, aided by the Fund for the Advancement of Education and the Ford Foundation, encouraged school systems to perform experiments to discover new and more effective ways of utilizing the staff. "Utilization of Staff" was the key phrase of the Commission's title, for in 1956 the teacher shortage in the United States seemed to many educators to have reached a proportion where education in this country was seriously threatened.

The initial publication of the Commission, *New Horizons for Secondary Schools*, emphasized the best utilization of teachers' time. A succeeding publication titled *Images of the Future* outlined the details of what has become known as the Trump Plan. It stressed not only the better utilization of teacher and student time, but also gave hope that schools would continue to improve the quality of present education even when faced with increasing teacher shortages.

The original Trump Plan suggested that students spend 40% of their time in large groups (around 150 pupils), 20% in small groups (around 15 children), and 40% in independent study. Independent study was the time when schools had the optimum chance to provide for individual differences in students, since during this time the student was engaged in activities particularly planned with his interests and capabilities in mind. Extensive time spent by teachers helping students plan their programs was written into this plan. In practice, schools altered the percentages of time originally suggested for large-group and small-group study (Shawner, 1958, p. 22).

Shawner continues that according to Trump, team teaching was an arrangement whereby two or more teachers with assistants planned, instructed, and cooperatively evaluated two or more class groups in order to take advantage of their respective special competencies as teachers. The major thrust of team teaching was to improve the quality of instruction, individualization, and the curriculum, to extend teachers' specialized competencies, and to provide a more flexible basis of organization in terms of students, staff, time, and curriculum.

According to Funaro (1969, pp. 401-403) the following operational features of team teaching were important in trying to accomplish the above objectives:

1. *Effective Staff Utilization*. Although team teaching could not be considered an inexpensive approach, it resulted in a greater return per dollar spent than traditional organizational patterns because it utilized staff more effectively.

This does not necessarily imply increased content and instructional specialization. What was necessary was the recognition and perfection of teaching skills—allowing the dynamic, dramatic person to concentrate much of his time on large-group presentations while the individual skillful in promoting dialogue, speculations, and inquiry could focus on small-group instruction so neglected in secondary education.

More personnel were used in various capacities—regular teachers, teacher interns, and instructional and clerical aides. However, staff utilization was not so inflexible that no allowance was made for the inclusion of the many good teachers who operated optimally in conventional classrooms.

2. *The Emergence of the Professional.* If the team-teaching program functioned well, most free time for teachers would be devoted to professional planning sessions in which decisions were continually being made relative to grouping, curriculum development, instructional approaches, scheduling, and school policy as it affected instruction. Such involvement demanded planning time. Schools which had considerable experience in team organization found that planning sessions were essential if learning was to be effective.

3. *Curriculum Development and Individualization of Instruction.* Team teaching was not a vehicle for the answer-centered curriculum. Team teaching dispelled the notion that the teacher was the arbiter of knowledge. Through mutual inquiry and discovery the teacher and student came to recognize that learning was an extremely worthwhile and enjoyable experience. Team teaching destroyed ready-made curricula; it demanded that each team formulate a curriculum which realistically met the needs of the students they taught.

4. *Role of the Principal.* Team teaching was not an administrator's dream. Bureaucratic efficiency expressed in terms of predictable time schedules and restrictive groupings of students was sacrificed. Curriculum and instructional needs determined time schedules, and students were met at points in their learning where help was needed.

Rather than a developer of curriculum, the principal was a promoter and coordinator of instruction. In this capacity he assisted his teams by clearing away administrative details and by maintaining an open and supportive atmosphere in which his teachers would feel free to take chances.

5. *Implications for the Supervisor and the Process of Supervision.* Team teaching gave the supervisor more of an opportunity to use his expertise in helping to improve instruction. He came to team meetings not as a critic but as a resource member of the group. Team teaching provided built-in supervision by team members for one another. Here was the opportunity for continuous evaluation without fear of error and a chance for change in a positive atmosphere of mutual assistance. By placing in the hands of the teaching team the responsibility for professional decision making, basic curriculum construction, and modification of teaching behavior, team teaching provided a national inservice program.

While the Trump team teaching experiment was being coordinated by the Commission, two parallel studies were being undertaken in 1957, and are reported by Shaplin and Olds (1964, p. 2). One study joined three Massachusetts public school systems—Lexington, Concord, and Newton—with the Harvard Graduate School of Education to form SUPRAD, the School and University Program for Research and Development. One of the major team-teaching programs that emerged from this study was the Lexington project, which worked within the framework of the nongraded elementary school. Teachers in the Lexington school were organized into three major teams, utilizing clerical aides for routine tasks and planning the instructional program for each child on an individual basis.

The other study joined nine California school districts with the members of the Educational Faculty of the Claremont Graduate School. One of the prime examples of this study was the Claremont High School Team Teaching Program. In this, there was primarily a three-teacher team for social science students, two or three-teacher team in mathematics, two-teacher team in social studies, and a four-teacher art team. Large and small groups and laboratory techniques were employed by all teams.

A recent review (NASSP Bulletin, 1973) concludes that the team-teaching movement did not succeed to the degree anticipated ("Necessary Ingredients for Good Team Teaching," NASSP). Because of certain factors such as the over-emphasis on large-group instruction and the employment of half-hearted measures, the movement seemed inherently doomed. Teachers approached team teaching by keeping 90 or more students in large-group situations too much of the time. Passive, large-group activities did not actively engage students in the learning process. The necessary impersonality of large-group instruction hampered the emotional, social, and academic progress of certain students who needed consistent, individual contact with their teachers. Team teachers seldom became well enough acquainted with individual students in a large group to be able to meet their needs effectively.

There were additional problems. The per-student cost of team teaching was sometimes higher than the per-student cost of conventional teaching because many teams were comprised of nonprofessional aides, paraprofessionals, and clerical aides in addition to full-time certified teachers. Many teachers were not suited by training or disposition to engage in the cooperative planning and variety of procedures and resources that were essential to effective team teaching. The planning essential to productive team teaching often became complicated, and the end result did not justify the expenditure of professional time and energy. If individualized instruction in both the small and large groups was not planned well, team teaching was less effective than traditional classroom instruction.

Two further factors seemed to destroy teaching teams quickly: teacher incompetency and lack of team compatibility. When a conflict arose within a teaching team, it had a slow, smouldering quality, not immediately detectable by those who could possibly ameliorate it.

The phenomenon of team teaching will likely provide a number of beneficial inputs for IGE/MUS-S, either through demonstration of what to avoid or through demonstration of workable innovations. Team teaching was really an amalgamation of several ideas, not all of which appeared coterminously. One substratum of the larger picture was interdisciplinary studies, which relied too heavily on individual interpersonal relations of teachers and which demanded that teachers surrender a portion of their individual identities to the "larger group."

Other isolated innovations that appeared under the banner of team teaching, such as educational TV and differentiated staffing patterns, often met a sympathetic demise through no inherent flaw of their own. They never failed; rather, they passed from the scene by attrition. Partly this was because they were potential solutions for problems which had not yet arisen or been defined. Schools which have had success with some of these satellite innovations continue to employ them, indicating that the component innovations of team teaching are under-used and not dead.

Adele Davis claims that if any one of 40 basic nutrients is absent from the human diet, the other 39 cannot do their jobs. In an analogous manner it is quite possible that an essential idea was missing from early team-teaching endeavors, or that the particular mixture of ideas needed adjustment to suit local, varying conditions. Should IGE/MUS-S employ a variation of teacher teams, it would do so only as part of a general overall strategy that provided all of the operational devices considered necessary to such a system. For instance, several existing secondary schools have already demonstrated the need for skills in using measurable performance objectives in these types of situations.

Alternative Schools

In many communities today students, parents, and teachers are accepting and even demanding options in public education. Alternative public schools are currently operating in several hundred communities in over 30 states and in Canada. Many more communities are exploring, planning, and developing alternative public schools. These alternative schools have developed with little or no communication among themselves and with little national or state coordination. They have not come as a response to a national educational crisis but have been developed to meet specific needs within their local communities.

What types of alternative public schools are in operation? Vernon Smith (1973) outlines the following variety:

Open Schools—Learning activities are individualized and organized around interest centers within the classroom or building.

Schools Without Walls—Learning activities extend throughout the community with much interaction between the school and the community.

Magnet Schools, Learning Centers, Educational Parks—A concentration of learning resources in one center is available to all of the students in the community.

Multicultural Schools, Bilingual Schools, Ethnic Schools—The emphasis is on cultural pluralism and ethnic and racial awareness.

Street Academies, Dropout Centers, Pregnancy-Maternity Centers—Learning programs for students in targeted populations are emphasized.

School-Within-a-School—Any of the above could be organized as a unit within a conventional school.

Integration Models—Any of the above could be organized with a voluntary population that is representative in racial, ethnic, and socioeconomic class makeup of the total population of the community.

Free Schools—Greater freedom for students and teachers is emphasized. This term is usually applied to private alternatives, but a very few are operating within public school systems today.

While each alternative public school has been developed within its community in response to particular local needs, Smith states

that most of the alternatives share some or all of the following characteristics:

1. They provide options within public education for students, parents, and teachers. Usually these choices are open to all, but there must always be a choice for some so that the alternative schools have a voluntary clientele.

2. The alternative public schools have a commitment to be more responsive to some need within their communities than the conventional schools have been.

3. The alternatives usually have a more comprehensive set of goals and objectives than their conventional counterparts. Most alternatives are concerned with the improvement of self-concept, the development of individual talent, the understanding and encouragement of cultural plurality and diversity, and the preparation of students for various roles in our society.

4. Alternative schools are more flexible and therefore more responsive to planned evolution and change. They have been designed to rely on feedback and formative evaluation as they develop and modify their programs.

5. The alternatives attempt to be more humane to students and teachers. They have fewer rules and bureaucratic constraints for teachers and students.

The free school movement is so widespread that in 1971 there were roughly 2,000 free schools in the United States. Among the leading free schools mentioned by Smith (1973) and the Harvard Educational Review (1972) are the Parkway Program in Philadelphia, Pennsylvania; the Berkeley Free School in Berkeley, California; the Many Roads School in Newton, Massachusetts; and the Metro High School in Chicago, Illinois. None as yet can be judged a success; they are still too new and experimental for any such assessments to be made.

As the prime example of the free school movement the Parkway School in Philadelphia stands out as the "school without walls" which is questioning the traditional assumptions about what constitutes an education. Under the auspices of the Philadelphia Board of Education and with funding from the Ford Foundation, a totally new institution was built. The experimental program began with only 143 students in the spring of 1969, expanding to 500 in the 1969-1970 school year. Parkway departs from tradition in a number of respects. One of the most striking is the absence of any building. "Learning is not something that goes on in special places called classrooms or in special buildings called schools," John Bremer, the program director, writes. "Rather, it is a quality of life appropriate to any and every phase of human existence, or, more strictly, it is human life itself." The "school" is the city of Philadelphia. Learning is not confined to classrooms or to the conventional school day or year. Students are expected to choose at least one course or activity offered by one of the many scientific, business, cultural, and journalistic institutions in the Philadelphia area. The offering may be a formal course, a work-study program, a research assistantship, or an apprenticeship. The objective is to reconnect the school with the large community, not through the conventional field trip but through some continuing experience (ERS Circular, 1972).

In effect, the students plan their own education, subject to the constraints of the state education law which specifies minimum "Carnegie Units" for a high school diploma. The program is designed to provide the maximum opportunities for students to learn what they want to learn. In addition, the student will learn how to live with others as well as with himself (ERS Circular, 1972).

Avenues by which students construct educational goals for themselves might very well be incorporated into MUS-S, for this is a major feature of alternative schools now in operation. The emphasis on enlightenment advocated by the Parkway Program may not be acceptable to many persons since it appears to relegate training and schooling functions to positions of reduced importance. Furthermore, the capacity of any community to absorb large numbers of students is severely limited. Undoubtedly, the greatest success of Parkway and other such schools is the degree to which students can be motivated to maximize attainment of personally selected goals.

Scheduling

IGE/MUS-S at the present time tends toward a rather limited role for innovative scheduling techniques. They tend to be complicated, and are very flexible until the moment they are committed to paper, at which time they become rigid. The lessons of MUS-E are clear: teachers need blocks of time and space, as large as possible, which they can manipulate as they see fit. The fewer impositions placed on instructional procedures by planners and organizers the better. In a search designed to test this viewpoint, the subject of scheduling was examined.

As discussed in the ERS Circular (1972), the master schedule is the foundation of the secondary school. Its effectiveness can determine the success of the entire educational program. Traditionally scheduling was not

regarded as an area where creativity and innovation could be applied. However, in the early 1950's a few principals organized study teams and devoted hours to breaking out of the conventional schedule and working toward greater variability. This investment of labor provided several master schedules that could accommodate many of the features demanded by new approaches and different grouping practices (ERS Circular, pp. 1-6). In building an effective schedule several vital variables must be taken into account. While the list of prime variables is not long (i.e., time, teachers, students, facilities, and curriculum), each variable has a peculiar set of circumstances and limitations surrounding it and must fit into a complex but complete picture for a proper rationale to be developed.

Conventional schedule

The conventional schedule is characterized by

1. One-day cycling—the schedule repeats itself each day of the week for five school days
2. Standard-length periods of time—each period meets for the same number of minutes regardless of the subject matter involved
3. High levels of control over students' use of time.

Attempts to break the rigidity of the conventional schedule have taken several forms.

Flexible schedule

Because of the wide usage of the term "flexible scheduling" to connote change in the conventional schedule, the use of the term defies a generally accepted operational definition. Many schools tend to fasten this term onto any modification of the conventional schedule which facilitates new procedures. However, wide separation exists between these changes and the kind of scheduling proposed by those who are working with modular-computerized designs.

Variable class schedule

The variable class schedule or modular schedule has the following characteristics:

1. Five-day cycling—the schedule repeats itself every five days rather than the single-day pattern of the conventional schedule.
2. There are no standard lengths for class periods. Class length is determined by subject and teaching method for a particular class.
3. Students do not spend all their time in formal class arrangements or study hall.
4. Teachers meet students in both formal and informal groupings throughout the weekly cycle.
5. A concept of facility use is introduced which concerns itself with what and how a subject is taught in any given facility at any given time.

The variable class schedule's real flexibility lies in the amount and degree of variability introduced with the five-day cycle as compared with the one-day cycle.

Computerized variable class schedule

There are two distinct kinds of computer programs presently on the market which are available to principals. For purposes of differentiation the first of these will be called "loading" programs. A computer program providing this service demands that the school

1. Gather all data pertinent to the building of the master schedule
2. Build the master schedule using the best judgment criteria drawn from the data gathered
3. Place the school-built master schedule in the computer along with the programs requested by all students.

The computer operation consists of placing or loading the student in the master schedule. Loading programs offer the school maximum search patterns for the best fit according to a predetermined master schedule prepared by the local school.

The second kind of computer program is represented by the Generalized Academic Simulation Program (GASP). GASP was developed in the late 1950's and has been used by several schools to date. Early GASP users include Wayland High School, Wayland, Massachusetts; Ridgewood High School, Norridge, Illinois; and Cohasset High School, Cohasset, Massachusetts. This computer program provices services vastly different from loading programs and demands that the school

1. Gather all data pertinent to the building of the master schedule
2. Prepare this material in some logical arrangement that serves the computer program.

The master schedule is built as well as loaded by the computer.

As the reader has probably noted, each scheduling device is dependent on the quality

of data assembled locally. Therefore the promise of scheduling in the facilitation of IGE is no brighter than the caliber of creativity and intelligence of local educators. Given the task of scheduling large blocks of time for their teachers, success will depend on the ingenuity of those familiar with local space constraints and trends in program offerings (Wiley & Bishop, 1968).

Problem-Solving Approach

If any generalization of past and current innovations can be made, it would most likely be that they share a problem-solving orientation. That is, despite great variances in philosophies and technology, innovators are striving to eliminate unmet needs. The net effect is a common bond on a level so basic that it is seldom if ever thought of as a theory—problem solving. Rather than try to construct a grandiose master plan, educators merely attempt to limit their concerns to particular areas. This is largely the approach toward change used by IGE/MUS-S except that the project attempts to appraise systematically and to construct its solutions in advance.

From the vague complaints of malaise in education such as,"We need more joy in education," and, "Much that is taught in school is useless in life," must be drawn the definitive diagnoses needed to effect cures (Silberman, 1970). Other problems, which might more accurately be termed symptoms, can be quickly listed:

Routine has taken the place of purpose
Tax revolts
Teacher strikes
Student dissent
Rising expectations and inability to meet them
Failure to prepare for increased leisure
Education is divorced from real life
There is preoccupation with order and control
Failure is expected of sizable numbers of students
Schools are not humane
Schools do not capitalize on student interest
Teachers spend most of their time maintaining discipline
Vandalism, drugs, apathy
Vocational and technical training is a "black sheep"
Universities are producing archaic teaching skills
Schools serve a white culture
Students are forced into lockstep course sequences
Many students are functionally illiterate
Learning styles of individuals are ignored
Dropouts, gifted students, working students, compulsory attendance, etc.

It is necessary to recognize that secondary education has closer roots to higher education than it does to elementary education (Inglis, 1918). This helps to explain many of the more specific operational complaints in secondary-level educational practice, such as:

Departments and subject specialization prevent change
"Academic" subjects have all the prestige
Very few skill packages exist for secondary school instruction
Graduation requirements are not stated in usable terms
Students are locked into four-year programs
Schools do not recognize variations in growth patterns
Teachers have a limited repertoire of instructional techniques
Too much emphasis is placed on competition
Teachers leave a subject before some have mastered it
Teachers introduce materials that are too difficult for the students
Remedial students cannot function at the secondary level
Time and knowledge are compartmentalized
All decision making is centralized

There are a number of directions one can go in trying to eliminate problems in education; hopefully, most will not precipitate something worse in the way of side effects. For those with great wealth and virtually unlimited commitment, a program of community education as fostered by the Mott Foundation in Flint, Michigan, may be an appropriate answer. Other school systems may merely lengthen the list of approved textbooks for next year. MUS-S attempts an ambitious yet moderate undertaking, a basic system which schools can adapt to meet their needs to the extent they feel is required.

Psychology-Based Propositions for Educational Practice

IGE/MUS-S is more than just a rearrangement of several problem-solving innovations. The project makes explicit some assumptions about factors that can influence learning out-

comes, and relates these to learning theory. Every attempt has been made to maintain consistency between these assumptions and IGE at the secondary level. On a theoretical plane the project has adopted the somewhat shopworn yet still valuable domains of learning developed by Bloom (1956): affective, cognitive, and psychomotor. MUS-S places most of its stress on the cognitive domain and less emphasis on the affective domain under the assumption that nearly all of the affective problems that appear in the school situation can be greatly alleviated when the student feels the aura of academic success and purpose.

As useful as the Bloom construct is for organizing thoughts and analyzing actions, it is limited in the amount of practical information it conveys. Those who work with students daily need serviceable applications of theory. To fulfill that need, the project has adopted a set of psychological axioms; they are compatible in every way with the system of educational practice and daily operations proposed by the project. Written by Goodwin Watson (1961), they are entitled "What Psychology Can We Trust?" The 50 propositions follow, somewhat revised and with brief comments, under nine major headings.

I. Learning Process

A. *Behaviors which are rewarded (reinforced) are more likely to recur.*

This most fundamental law of learning has been demonstrated in literally thousands of experiments. It seems to hold for every sort of animal from earthworms to highly intelligent adults. The behavior most likely to emerge in any situation is that the subject found successful or satisfying previously in a similar situation. No other variable affects learning so powerfully. The best-planned learning provides for a steady, cumulative sequence of successful behaviors.

B. *Reward (reinforcement), to be most effective in learning, must follow almost immediately after the desired behavior and be clearly connected with that behavior in the mind of the learner.*

The simple word, "Right," coming directly after a given response, will have more influence on learning than any big reward which comes much later or which is dimly connected with many responses so that it can't really reinforce any of them. Much of the effectiveness of programed self-instruction (teaching machines) is that success is fed back immediately for each learner response. A total mark on a test, the day after it is administered, has little or no reinforcement value for the specific answers.

C. *Sheer repetition without indications of improvement or any kind of reinforcement (reward) is a poor way to attempt to learn.*

Practice is not enough. The learner cannot improve by repeated efforts unless he is informed about how well each one has succeeded.

D. *Threat and punishment have variable and uncertain effects upon learning; they may make the punished response more likely or less likely to recur; they may set up avoidance tendencies which prevent further learning.*

Punishment is not, psychologically, the reverse of reward. It disturbs the relationship of the learner to the situation and teacher. It does not assist the learner in finding and fixing the correct response.

II. Motivation

A. *Readiness for any new learning is a complex product of interaction among such factors as (a) sufficient physiological and psychological maturity, (b) sense of the importance of the new learning for the learner in his world, (c) mastery of prerequisites providing a fair chance of success, and (d) freedom from discouragement (expectation of failure) or threat (sense of danger).*

Conversely, the learner will not be ready to try new responses which are beyond his powers or which are seen as valueless or too dangerous.

B. *Opportunity for fresh, novel, stimulating experience is a kind of re-*

ward which is quite effective in conditioning and learning.

Experiments indicate that even lower animals (rats, dogs, monkeys) will learn as effectively when they receive rewards of new experience or satisfied curiosity, as they will when the rewards gratify desires for food, water, sex, or rest. One trouble with the typical school day is that it is too dull; pupils find too few stimulating new insights to reward their efforts.

C. *The type of reward (reinforcement) which has the greatest transfer value to other life-situations is the kind one gives oneself—the sense of satisfaction in achieving purposes.*

Any extrinsic reward—candy, or stars on a chart, or commendation—depends on its dispenser. There is no need to strive if the reward-giver is out of the picture. Also, cheating (detour behavior) can sometimes win the extrinsic reward. The internal reward system is always present for the learner, and he sees little gain in fooling himself.

D. *Learners progress in any area of learning only as far as they need to in order to achieve their purposes. Often they do only well enough to "get by"; with increased motivation they improve.*

One of the earliest psychological studies showed that telegraph operators with years of practice seldom rose in speed beyond the acceptable "main line" rate; they could, however, learn to send and receive much faster if special incentives were provided. Studies of reading speed show that practice alone will not bring improvement; a person may have read books for years at his customary rate, but with new demands and opportunities he may be able to double that rate.

E. *The most effective effort is put forth by children when they attempt tasks which fall in the "range of challenge"—not too easy and not too hard—where success seems quite possible but not certain.*

A good illustration is the dart game. Where is it most fun to stand? So close that you can't miss? So far away that you can't make a decent score? The maximum fun is at the level of maximum challenge. If it proves too easy, one steps further back; if it proves too hard one steps a little closer. It is not reasonable to expect a teacher to set an appropriate level of challenge for each pupil in a class; pupils can, however, learn to set their own goals to bring maximum satisfaction and learning.

III. Teaching Methods

A. *Children are more apt to throw themselves wholeheartedly into any project if they themselves have participated in the selection and planning of the enterprise.*

Genuine participation (not pretended sharing) has been found to increase motivation, adaptability, and speed of learning.

B. *Reaction to excessive direction by the teacher is likely to be (a) apathetic conformity, (b) defiance, (c) scape-goating, or (d) escape from the whole affair.*

Autocratic leadership has been found to increase dependence of members on the leader and to generate resentment (conscious or unconscious) which finds expression in attacks on weaker figures or even in sabotage of the work.

C. *Over-strict discipline is associated with more conformity, anxiety, shyness, and acquiescence in children; greater permissiveness is associated with more initiative and creativity in children.*

Comparison of children whose parents were at the most permissive extreme of home discipline with those who were most strict (both groups of parents loving and concerned) has shown more enterprise, self-confidence, curiosity, and originality in the youngsters from permissive homes. These children were also more friendly and less hostile than the strictly

disciplined children. The demand for more restrictive discipline runs counter to the call for more individuality.

D. *Many pupils experience so much criticism, failure, and discouragement in school that their self-confidence, level of aspiration, and sense of worth are damaged.*

The pupil who sees himself at his worst in school is likely to place little value on study and to seek his role of importance outside the classroom. He may carry through life a sense of being not good for much. He is likely also to feel resentment at schools, teachers, and books.

E. *When children (or adults) experience too much frustration, their behavior ceases to be integrated, purposeful and rational. Blindly they act out their rage or discouragement or withdrawal. The threshold of what is "too much" varies; it is lowered by previous failures.*

Pupils who have had little success and almost continuous failure at school tasks are in no condition to think, to learn, or even to pay attention. They may turn their anger outward against respectable society or inward against themselves.

F. *Pupils think when they encounter an obstacle, difficulty, puzzle or challenge in a course of action which interests them. The process of thinking involves designing and testing plausible solutions for the problem as understood by the thinker.*

It is useless to command people to think; they must feel concerned to get somewhere and eager to remove an obstruction on the way. A situation in which the customary responses work smoothly does not call for thought; when they no longer serve, then one needs to think.

G. *The best way to help pupils from a general concept is to present the concept in numerous and varied specific situations, contrasting experiences with and without the desired concept, then to encourage precise formulations of the general idea and its application in situations different from those in which the concept was learned.*

For example, the concept of democracy might be illustrated not only in national government but also in familiar situations of home, school, church, jobs, clubs and local affairs. It is best understood when it is contrasted with other power structures such as autocracy, oligarchy, or laissez faire.

H. *The experience of learning by sudden insight into a previously confused or puzzling situation arises when (a) there has been a sufficient background and preparation, (b) attention is given to the relationships operative in the whole situation, (c) the perceptual structure "frees" the key elements to be shifted into new patterns, (d) the task is meaningful and within the range of ability of the subject.*

The term "cognitive reorganization" is sometimes applied to this experience. Suddenly the scene changes into one that seems familiar and can be coped with.

I. *Learning from reading is facilitated more by time spent recalling what has been read than by rereading.*

In one experiment (typical of many), students who spent 80 percent of their learning periods trying to remember what they had read surpassed those who spent only 60 percent of the time on recollection; 60 percent was better than 40 percent; 40 percent was better than 20 percent; and the poorest plan was to spend all the time reading and rereading the assignment. Trying to interpret and apply the ideas noted in reading is another good procedure.

J. *Forgetting proceeds rapidly at first—then more and more slowly; recall shortly after learning reduces the amount forgotten.*

Within twenty-four hours after learning something, a large part is forgotten unless efforts are made to

prevent forgetting. A thing can be relearned more quickly than it was learned originally, however; and if it is reviewed several times at gradually increasing intervals it can be retained for some time. Some people apply this idea in remembering names of several persons to whom they have just been introduced. The first recall must come immediately; a second recall should follow about five minutes later, a third after half an hour, a fourth some hours later, and perhaps a fifth the next day. Then names will stick.

K. *People remember new information which confirms their previous attitudes better than they remember new information which runs counter to their previous attitudes.*

Studies consistently show that individuals who feel strongly on a controversial issue, and who are asked to read presentations of both sides, remember the facts and arguments which support their feelings better than they recall those on the opposite side.

IV. Subject Matter

A. *No school subjects are markedly superior to others for "strengthening mental powers." General improvement as a result of study of any subject depends on instruction designed to build up generalizations about principles, concept formation, and improvements of techniques of study, thinking, and communication.*

In Thorndike's classic investigation, high school pupils whose programs included "hard" subjects like mathematics and ancient languages did not consistently improve in "selective and relational thinking" during a school year any more than did students whose programs had substituted allegedly easier activities like dramatics or typewriting. Whether any subject develops general abilities or not depends very much on how it is taught. Memorizing won't strengthen memory, but students can learn how to use better techniques of remembering. Pupils who study science may or may not master the processes of scientific thought.

B. *Children (and adults even more) tend to select groups, reading matter, TV shows and other influences which agree with their own opinions; they break off contact with contradictory views.*

Parents want children taught what they themselves value and believe. One of the basic educational problems is to preserve minds from being closed in—surrounded by like-minded associates, like-minded commentators, and like-minded publications.

C. *What is learned is most likely to be available for use if it is learned in a situation much like that in which it is to be used and immediately preceding the time when it is needed. Learning in childhood, then forgetting, and then relearning when need arises is not an efficient procedure.*

It was once thought that childhood was the golden age for learning. We now know (see Proposition VI.G) that adults of forty can learn better than youths of fourteen and much better than seven-year-olds. The best time to learn is when the learning can be useful. Motivation is then strongest and forgetting less of a problem. Much that is now taught children might be more effective if taught to responsible adults.

D. *The superiority of man over calculating machines is more evident in the formulation of questions than in the working out of answers.*

Is education too much concerned with answers, not enough with the generation of better questions? "Always the beautiful answer who asks a more beautiful question" (E. E. Cummings).

E. *Television is the most frequently reported activity of elementary school pupils, occupying about the same number of hours per week as are given to school—far more than would voluntarily be given to school attendance.*

Television is qualitatively as well as quantitatively influential. The

pictures and sound have a lifelike impact, far more impressive than print. The proportion of their total knowledge which children today acquire in school has dropped to a small fraction. Communities deeply concerned about finding better textbooks have given very little effective attention to the more potent educational medium.

V. Evaluation

A. *If there is a discrepancy between the real objectives and the tests used to measure achievement, the latter become the main influence upon choice of subject matter and method.*

The classic argument on the relative importance of heredity and environment is futile; both influence every human act and trait. Some traits (preferences in food or clothing for example) are easily influenced by nurture, others (height, rate of skeletal ossification) only when extreme environmental differences are involved.

B. *There are specific stages in individual development during which certain capacities for behavior appear. The manner in which these capacities are then utilized sets a pattern for later behavior which is highly resistant to change. If utilized then, they are likely not to develop later.*

The object which a baby duck regards as its mother and follows about is that which appears at a certain brief stage shortly after the egg has hatched. Children born blind who later recover their sight have lifelong difficulty recognizing objects which seem simple and obvious to youngsters with normal visual development. A child who does not experience affectionate care from one person (not necessarily the biological mother) during the period from six months to eighteen months of age may be emotionally handicapped for life. It is very difficult in later years to learn to speak a second language without a foreign accent. Adolescents who do not develop independence from parents and a normal interest in the opposite sex during the 'teen years may never do either very well.

C. *The most rapid mental growth occurs during infancy and early childhood; the average child achieves about half of his total mental growth by the age of five.*

In the first two years a normal child transforms the "big, buzzing, blooming confusion" of his first conscious experience to organized perception of familiar faces, spoken words, surroundings, toys, bed, clothing, and foods. He differentiates himself from others, high from low, many from few, approval from disapproval. He lays a foundation for lifelong tendencies toward trust or mistrust, self-acceptance or shame, initiative or passivity; and these vitally condition further mental growth.

D. *During the elementary school years (ages six to twelve) most children enjoy energetic activity—running, chasing, jumping, shouting, and roughhouse. For most staid adults this is uncomfortable. Boys are generally more vigorous, active, rough, noisy and non-conforming than are girls.*

Only in relatively recent periods of human history have children been cooped up in classrooms, confined to desks, and marched in silent order. There is reason to doubt the biological appropriateness of the traditional school.

E. *Not until adolescence do most children develop the sense of time which is required for historical perspective.*

The so-called facts of history—1492, 1776, and all that—can be learned by children but without any real grasp of what life was like in another period or in a different country. Most instruction in Biblical, ancient, medieval, and even modern history is no more real to children than are fairy tales.

F. *The significance of the important biological transformations of*

pubescence (growth of primary sex organs, development of secondary sex characteristics, skeletal and muscular growth, glandular interaction) lies mainly in the meaning which cultural norms and personal history have given to these changes.

Adolescence is not necessarily a "stormy" period. It is vital in our culture because it is then that we expect boys and girls to achieve their identity. They must work out their vocational plans, their social life, their marriage, their politics, their religion, and above all, their concept of who and what they really are. They have one role at home, another with friends of their own sex, another with friends of the opposite sex, another at work, and still another in a school class. What is the true self behind all these masks?

G. *Ability to learn increases with age up to adult years.*

The apparent decline is more a matter of motivation (see Proposition II.D) than of inability. Most adults don't need to take the trouble to change and to learn new skills. We can coerce children into school activities; adult education is mostly voluntary. Men and women can, if they wish, master new languages, new ideas, and new ways of acting or problem-solving even at sixty and seventy years of age.

VII. Individual Differences

A. *No two people make the same response to any school situation. Differences of heredity, physical maturity, intelligence, motor skills, health, experiences with parents, siblings, playmates; consequent attitudes, motives, drives, tastes, fears—all of these and more enter into production of each individual's unique reaction. People vary in their minds and personalities as much as in their appearance.*

Because conformity can be coerced, the ever-present differences are often ignored. Almost everyone around us stops at the red light, comes to work on time, sees the favorite TV programs. Children assemble in classes and take out their arithmetic books when told to do so. These similarities are misleading; the inner reactions are always varied.

B. *Pupils vary not only in their present performance but in their rate of growth and the "ceiling" which represents their potential level of achievement. Some "late bloomers" may eventually surpass pupils who seem far ahead of them in grade school.*

Rates of growth are, moreover, irregular; mental growth is even more so than physical growth because it varies with encouragement and opportunity.

C. *Children's gains in intelligence test scores and IQ's are positively related to aggressiveness, competitiveness, initiative, and strength of felt need to achieve.*

Some apparent dullness is due to lack of encouragement in the development of verbal and arithmetic skills. When these are not valued at home or by friends, it is hard to take them very seriously. Studies have shown gradual decline in IQ's in culturally deprived groups.

D. *Pupils grouped by ability on any one kind of test (age, size, IQ, reading, arithmetic, science, art, music, physical fitness, and so forth) will vary over a range of several grades in other abilities and traits.*

Homogeneous grouping is literally impossible except for a given limited task. On another task, a little later, these same children will not perform alike. No teacher is justified in teaching children, however they may be grouped, as if they were all alike—little mechanical robots. A challenging assignment (see Proposition II.E) for one pupil may be too hard or too easy for another despite similarity in grade, age, IQ, sex, size, and school marks.

VIII. Group Relations

A. *The right size of group for any activity depends on both the maturity*

of the individuals and the nature of the activity.

Hundreds or thousands may be spectators at a film, a TV presentation or a spectacle. Working, interacting groups seem to do best when composed of five to eight members. If the group is larger, some become performers and others spectators. At age six, spontaneous groups seldom exceed three or four children. Sizes now accepted for school classes are much too large for good cooperative work.

B. *When groups act for a common goal there is better cooperation and more friendliness than when individuals in the group are engaged in competitive rivalry with one another.*

Some studies indicate that the more cooperative groups also produce results of better quality. The competitive emphasis directs attention toward winning rather than toward excellence of performance.

C. *Children learn at an early age that peer consensus is an important criterion; they are uncomfortable when they disagree with their peers, and especially when they find themselves in a minority of one against all the others.*

Children naturally conform; they do not want to be seen as "different" from all the others. This is an important aid in socializing the human animal. "Independence" emerges in some adolescents as conformity to a specially selected reference group—often one not present at the moment.

D. *Pupils learn much from one another; those who have been together for years learn new materials more easily from one of their own group than they do from strangers.*

Traditioned groups develop their own customary norms. They have signals which recall shared experiences. Peers can communicate economically and without barriers of status.

E. *Children who differ in race, nationality, religion, or social class background, but who play together on a footing of equal status and acceptance, usually come to like one another.*

This is a particular instance of an important law in social psychology; frequency of interaction brings increased liking for one another. Generally, best friends are those who are most frequently seen—classmates, neighbors, work associates, companions in recreation. The relationship is circular. Those best liked are most often chosen as companions; those with whom we more frequently associate become better liked.

F. *In most school classes, one to three pupils remain unchosen by their classmates for friendship, for parties, or for working committees. These "isolates" are usually also unpopular with teachers.*

A vicious circle operates. The rejection by peers and teachers intensifies the disagreeable characteristics and behavior of the isolates and makes it even more difficult to accept them. The task of the teacher is to break through the vicious circle—to try to bring out traits which will enable the isolate eventually to make friends. The relationship to an accepting and understanding teacher is the bridge to all other human beings.

G. *Leadership qualities vary with the demands of the particular situation. A good leader for a football team may or may not be a good leader for a discussion group, a research project, or an overnight hike; leadership is not a general trait.*

In some groups, leadership is distributed among members. One person may propose an idea; someone else may lead in its development; a third person may remind the group of its goals or time limits; still another may help to raise morale. No one leader is required. Agenda may be adopted by consensus and followed by cooperative reminders as needed.

IX. Social Stratification

A. *The socioeconomic class into which a child happens to be born strongly influences his life chances.*

Studies show differential infant-mortality rates, health services, mental growth, school performance, housing, recreation, vocational opportunities, type of church, and extent of community influence—all favoring the upper-class neighborhoods. Schools have a peculiar problem with social class; the school boards represent largely the upper strata; the teachers are drawn mainly from the middle layer; most pupils come from the lower classes.

B. *Two thirds of the elementary school children of America come from lower-class homes; the one third who come from the lower-lower class usually find school very uncongenial.*

This is education's biggest unsolved problem. Even in the elementary schools, most teachers are reluctant to work in the culturally deprived areas of cities or of rural regions. As we try to keep all American adolescents in school until sixteen or eighteen years of age, we increase the problem. The "Blackboard Jungle" of the city slums and the "Tobacco Road" schools of the rural slums are tough for teachers and are unrewarding for the resistant pupils. Few successful experiments have yet been reported in devising publicly approved educational programs with strong appeal for these students and for teachers.

C. *Children who are looked down upon (or looked up to) because of their family, school marks, social class, race, nationality, religion, or sex tend to adopt and to internalize this evaluation of themselves.*

Studies have shown that Negro children in a white-dominated society are more likely to pick the black-skinned doll than the white-skinned doll as "looking bad"; they unconsciously accept the prevailing norms of white superiority. Race and class and sex discrimination leads to self-concepts of overvaluation in the dominant group and under-valuation in the subordinate group.

D. *Attitudes toward members of outgroups are usually acquired from members of one's in-group.*

White children get their attitudes toward Negroes not primarily from direct contact with Negroes but from their white parents and playmates. Similarly, attitudes toward other classes, other faiths, and other nationalities are acquired (like speech dialects or food preferences) from the nurturing group.

E. *Children choose most of their "best friends" from homes of the same socioeconomic class as their own.*

An effort in one junior high school over a three-year period to increase interaction across the lines of socioeconomic class led to a drop in same-class choices from 75 to 66 percent. The norms of the larger community were more powerful than those generated within the school.

F. *More girls than boys wish, from time to time, that they could change their sex.*

Sex discrimination in our culture has received much less attention than has race discrimination. While there has been some progress toward equality of opportunity in education, our culture still sees boys as primarily concerned with vocational achievement and only secondarily with love, marriage, and parenthood. For girls, the order is reversed; it is thought that their vocational achievement should properly be secondary. Thus it comes about that the top positions in government, industry, commerce, science, education, and religion are reserved for males. The conflict may be particularly acute in girls gifted with high intelligence and outstanding capacity for executive leadership.

Summary

Material presented in this chapter is primarily descriptive in nature. IGE/MUS-S is described in terms of (1) its operation as a project in the Wisconsin Research and Development Center, (2) its commitment to an IGE system which provides continuous progress toward mutually established educational goals by all students through use of instructional programing and suitable organization, (3) its primary analytical tool—a three-part division of the functions of education, (4) its role in the ongoing process of change and innovation in education, (5) problems which often plague the process of education, and (6) a set of 50 working statements on learning psychology.

II
Individually Guided Education/Multiunit Secondary School Model and Its Components

Chapter I contained a discussion of the major theoretical aspects upon which the project is based. Quickly, there were the philosophy of continuous progress, or the belief that the educational system must accept major responsibility for success and failure in learning; the commitment to 50 propositions for educational practice based on known psychological findings; and the belief that education is a complex process serving at least three discernible functions called schooling, training, and enlightenment. Progress of the project has met our expectations in the development of a workable mechanism by which to implement these basic concepts. Preliminary drafts and designs for an IGE/MUS-S system have been reviewed by selected educators and have been found to be operationally feasible and compatible with IGE theory.

Design and Development of the General Model

It is the intent of this chapter to present the general system through discussion of its seven component parts. The combination and interaction of these components represent the system of IGE currently being considered for use at the secondary school level.

The general model shown in Figure 2.1 is comprised of three parts, the first depicting school operations as commonly found in traditional practice, the second depicting IGE/MUS-S as a process which changes traditional practice through application of its seven components, and the third depicting the changed form of school operations at the end of the "flow." The model has been designed to emphasize the nature of IGE/MUS-S rather than provide a comprehensive description of school operations, and it thus appears that IGE/MUS-S totally supplants traditional operations, which is somewhat misleading. There will be many school operations outside the realm of instruction, such as the business office, lunch program, and transportation, which will not be affected. There will also be much carryover from traditional instruction for a number of years, if for no other reason than the impossibility of purchasing entire new stocks of learning materials. Consider the use of "poetic license" when gauging the role of IGE/MUS-S in the figure.

The needs to which traditional practice responds are not a great deal different from those to which IGE responds. While traditional practice often gives short shrift to its responsibility for dealing with student failure in learning, this is more a consequence of the traditional structural organization than of the professional educators themselves. That is, the old system often forces sensitive individuals to become insensitive to the needs of students if they are to fulfill their organizational roles. The traditional organizational structure does this because it assumes that every child is the same, and adjustment to individual student needs is by default dependent upon individual teacher stamina and initiative. The outcome of this assumption is that many students complete their secondary education with inadequate schooling, not because they were too stupid to learn, but because they were unable to learn at the speed or in the mode which had been prescribed for the "average student." These unfortunate students are often placed in training programs with which they cannot deal. On the other hand, very gifted students are often placed in enlightenment classes for which they have little interest and from which they draw virtually no productive economic skills. And the very process of intellectual enlightenment suffers almost fatally because it is expected

to accomplish the functions both of schooling for slow students and of training for fast students. The end result is often frustration for both teacher and student.

IGE/MUS-S is a facilitating instructional system which recognizes first and foremost that each individual student has a different mixture of met and unmet needs in each of the three areas of education: schooling, training, and enlightenment. Furthermore, through instructional means it attempts to accommodate a wide variety of learning styles so that progress in each of the three areas will be continuous.

Students have different needs for a variety of reasons. In the area of schooling, different rates of assimilation, levels of IQ, responsiveness to media forms, reception to interaction modes, and types of grouping will all have a profound effect on the rate and quality of learning. These factors which affect learning are also important in the area of training, but are not as critical as motivation and interest which usually are derived from unique individual experiences and family background. The ability of many training courses to capitalize on nonverbal learning styles as well as reliance on motivation and interest of the student, may help to explain why these areas are so often selected almost exclusively and invariably for nonverbal and slow learners. The area of enlightenment is perhaps the purest form of education, and the rarest. The use of IGE/MUS-S will enable teachers through specified objectives and flexibility of group organization and interaction to approach this delicate undertaking more honestly and to approach schooling and training more effectively. Instead of having all students undergo a general course in which the teacher is forced to badger students to learn for the sake of "success on the exam," students with the right combination of schooling and interest can be brought together and have some hope of grasping the intrinsic joy of learning. IGE for secondary schools is proposed in order to adjust better to the sum total of all these impinging needs.

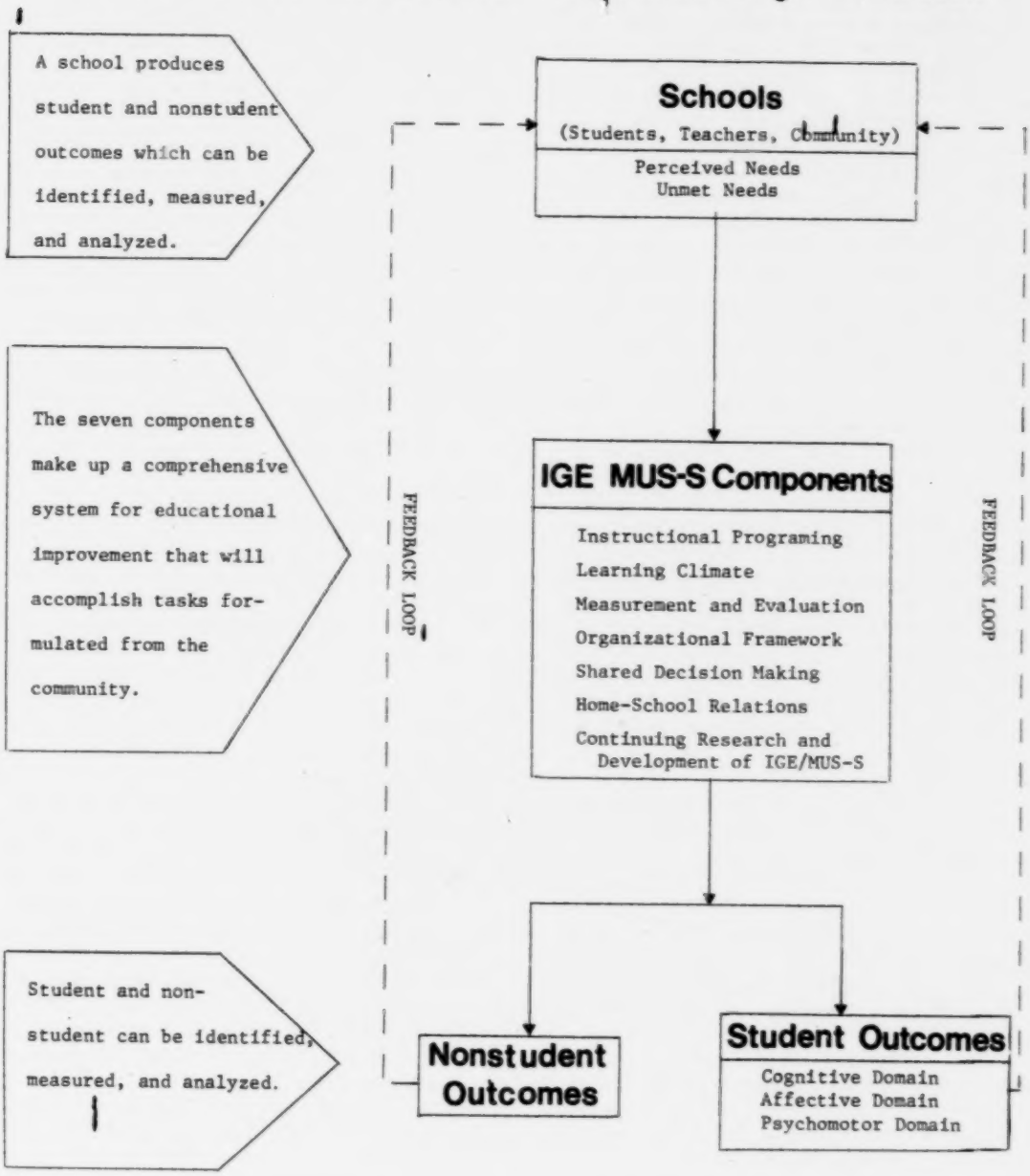
When properly integrated in a school, the seven components of IGE/MUS-S should function simultaneously as a system with consequent improvements in teacher morale, administrator-teacher communication, student performance, and personal-social development of individuals. These components are (1) instructional programing, (2) learning climate, (3) measurement and evaluation, (4) organizational framework, (5) shared decision making, (6) home-school relations, and (7) research and development. Those who are familiar with IGE at the elementary school level will recognize some of these component titles as essentially the same as those found in the MUS-E system. However, the content in some of these components is significantly different in MUS-S. The general model (Fig. 2.1) found on the following page illustrates the interrelationships between ongoing school operations and IGE/MUS-S.

The project has attempted to generate a dual set of models in each component to accommodate differences of philosophy, organization, and attitude found in secondary teaching levels. The levels are roughly equivalent to what are commonly referred to as junior high, middle, or intermediate schools, and senior high schools. While age-graded placement is largely abandoned by MUS-S, readers can use the clusters of Grades 6-9 and 9-12 to clarify the two levels for which models have been sketched. It will be seen in the following discussion that the organization component varies most between the two levels of secondary education, but that variation in this component greatly affects all other components in the system. Therefore, it became necessary for the project to develop two distinct sets of materials for each of the seven components which would serve the needs of two distinct situations. Aspects of components which appear to be identical in the two levels of MUS-S will often fulfill functions which are unique to general operations in junior and senior high schools.

It is important to understand the manner in which the intermediate and secondary models are to be utilized and applied by school districts. IGE/MUS-S is not a package of rigid dimensions to be plugged into a school system in the manner of a tape cassette. Rather, it is more like a set of building blocks: certain pieces are of small dimensions and can be used in isolation or in conjunction with several other blocks of varying size; other blocks are quite large, and increased adjustments are needed to use them in a new structure. Certainly school districts will have great latitude in selecting those features of IGE/MUS-S which best suit their local conditions. Just as certainly, the project must decide upon minimum combinations of components before granting permission for a district to claim operation in the IGE mode. While these minimums have not as yet been made final, their establishment is seen as necessary to guarantee that the total function of IGE is being delivered, even though a district may elect to implement a "stripped-down model." Adoption of the continuous progress philosophy as outlined in Chapter I is one of the primary ingredients; another is the use of the division type of organization in the senior high school. Conclusions beyond these are pending the outcome of piloting experiences.

Figure 2.1

Individually Guided Education Multiunit Schools - Secondary Model


A school produces student and nonstudent outcomes which can be identified, measured, and analyzed.
Schools
(Students, Teachers, Community)
Perceived Needs
Unmet Needs
The seven components make up a comprehensive system for educational improvement that will accomplish tasks formulated from the community.
IGE MUS-S Components
Instructional Programing
Learning Climate
Measurement and Evaluation
Organizational Framework
Shared Decision Making
Home-School Relations
Continuing Research and Development of IGE/MUS-S
FEEDBACK LOOP
FEEDBACK LOOP
Student and nonstudent can be identified, measured, and analyzed.
Nonstudent Outcomes
Student Outcomes
Cognitive Domain
Affective Domain
Psychomotor Domain

Instructional Programing

The purpose of this section is to familiarize readers with dimensions and concepts of the instructional programing component of IGE/MUS-S. Instructional programing is one of seven components in the IGE/MUS-S system; its nature is such that it necessitates a somewhat broader presentation and explanation than is true of some of the other components.

The section begins with a discussion of general topics, the first of which is continuous progress. It is this portion that provides a working philosophy for the IGE/MUS-S system. An overall design is presented in the form of the continuous progress model; it treats the theory behind a secondary school program constructed on the basis of the continuous progress philosophy and the IGE/MUS-S system. The final part of the general topics section provides a vehicle for analysis of educational programs in terms of the extent to which they are individualized.

The last portion of the section deals with the more specific topics of how to use instructional programing techniques (and how to identify individualized instructional materials and experiences). The Instructional Programing Model (IPM) is explained as a way of providing curriculum structure. A general form of the IPM is presented, followed by the implications for practice at district, building, teacher, and student levels.

In handbook format is a section on individualized curricula that can be thought of as providing curriculum *content*. This format will be useful for instructional staff in evaluating commercially prepared and packaged or locally produced programs.

Continuous Progress

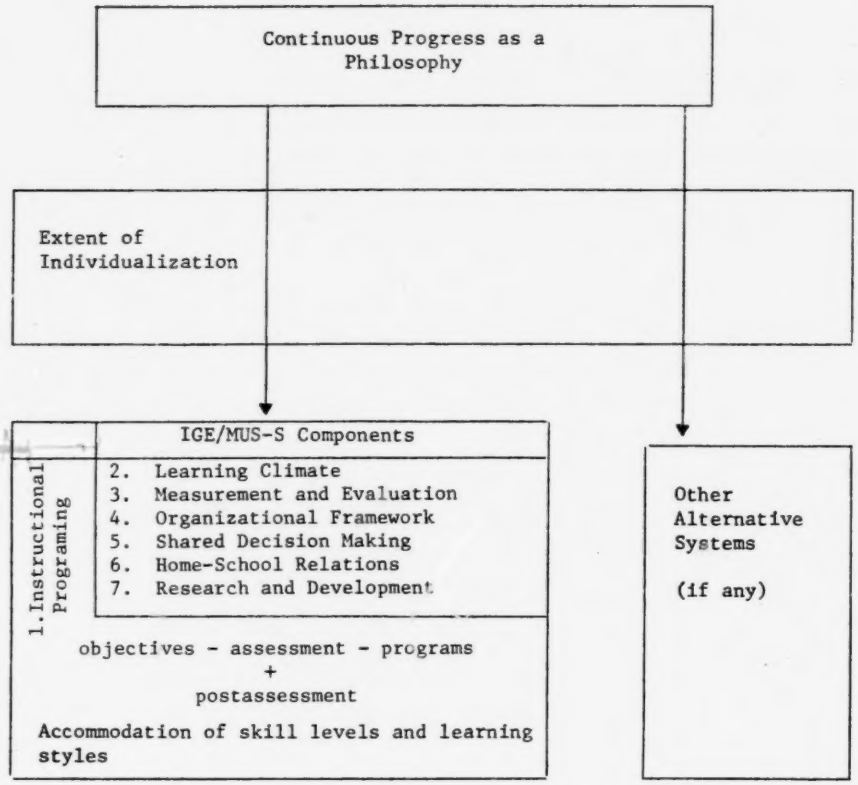
The notion of continuous progress implies that the school program must be ready to accommodate a student's state of preparedness, rather than preparing the student to meet arbitrary needs of the school program. Assuming that an educator can accept this notion, translation into practice requires that a study be made of each individual student to assess his or her particular state of preparedness. Such an investigation requires a standard for measurement, hopefully based on criterion-based professional judgment rather than population norms. These standards of measure or criterion-based reference marks usually grow out of a belief about what is desirable to learn. The usual way to communicate desirable goals for use in educational practice is to state them in terms of measurable objectives. Thus translation of the notion of continuous progress into practice requires a complementary set of operations called goal-setting and assessment. Once desirable outcomes are firmly in mind and a student's current ability to attain these outcomes is known, it remains to structure some type of learning experiences or instructional program to assist the student to achieve success in meeting that set of desired outcomes. Since the outcomes have hopefully been formulated in identifiable or measurable terms, it is quite natural to postassess a student to see if exposure or involvement in a program or experience has been successful. The final sequence of operations is goal setting, assessment, program development, and evaluation—none of which is mutually exclusive in practice.

The purpose of beginning with this analysis of how continuous progress is translated into practice is to lead into a discussion of how continuous progress, IGE/MUS-S, and instructional programing are interrelated. These concepts represent three views of the same thing: ***how to adapt the school to meet the needs of individual students***. Continuous progress is the philosophy which provides overall direction; IGE/MUS-S is the total system of components which is designed to facilitate continuous progress, and instructional programing is the specific technique in IGE by which to "fine-tune" the system to accommodate individual student needs. Figure 2.2 depicts the nature of these interrelationships.

It is also possible to generate a diagram of a more specific nature, limited to secondary school operations, which suggests ways in which a total school program may look, based on the continuous progress philosophy and IGE/MUS-S (Fig. 2.3). It can be termed an "outcomes and operations of IGE/MUS-S model" or more simply a "continuous progress model" (CPM). Because of its complexity, it is easier to construct in a horizontal fashion. But the flow of goal setting, assessment, program development, and postassessment shown in vertical fashion in the instructional programing models (Figs. 2.5–2.8) is intact. Operationally, there is little difference between the Instructional Programing Models (IPM) and the Continuous Progress Model shown here. They differ primarily in scope, with the IPM stressing short-term, practical application and the CPM stressing long-term, theoretical concepts. The models together attempt to eliminate assumptions about student proficiency levels in moving from lesson to lesson and year to year.

The model in Figure 2.3 reads from left to right, and shows courses of study in a series of lines. The length of each line suggests

Figure 2.2



duration or anticipated time regime for most students to attain exit proficiency.

The nature of the options in such a program will be highly dependent on local school systems. Among the choices they must evaluate are the following:

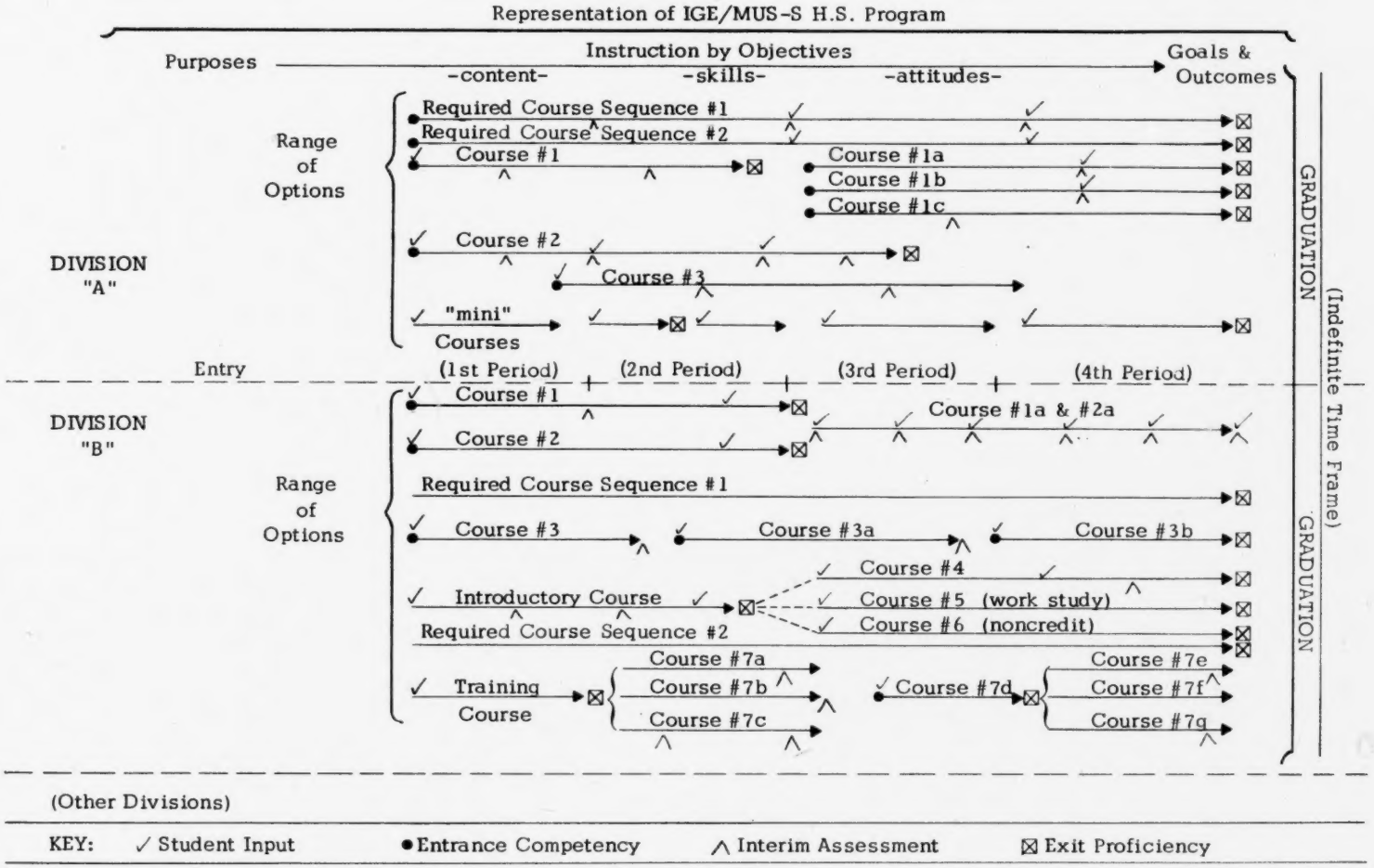
1. Student and/or teacher may construct a specific educational experience from an assembly of professionally prepared programs.
2. There may be options available to students in which they generate their own courses.
3. Points of entry into courses may be assigned or may be student choices.
4. It is possible to have tracks within which there are options.
5. Students may select their own interest divisions.
6. Within a given interest division, students may choose materials, experiences, and courses suited to their accelerated, normal, or remedial competencies.
7. Teachers may or may not establish universal skills required in each division.
8. Courses may be of differing lengths and will establish variable time frames according to whether or not exit depends on proficiency or number of days attended, or both.
9. Students may or may not be compelled to commit themselves to courses of study that exceed a semester in length.
10. A major portion of student input will revolve around the extent of their options.

The major criterion for determining to what extent a student may originate his or her own educational programs and goals is the individual's social maturity. In addition, recent trends toward federal citizenship for students may require that they have a major voice in decisions that used to be reserved for professional staff. Certainly students of higher maturity must be guaranteed the right to have

Figure 2.3

CONTINUOUS PROGRESS MODEL

Representation of IGE/MUS-S H.S. Program



an input into their education, and those points at which students may have an input should be identified. To a certain extent, these points are provided for in the building level and student level IPMs.

The implementation of an objectives-based learning system necessitates the identification of criteria for setting objectives. Criterion-reference marks which should be considered are subject area norms, individual student's competencies based on age predictions and intelligence, school/district/community expectations, economic realities of marketable skills, teacher expectations of their own work, teacher expectations of student's work, and known student desires and performance levels. Specification of these criteria will in turn lead to identification of student needs in the cognitive, affective, and psychomotor domains; teacher competencies; and school/district/community requirements and resources.

Establishment and assessment of competency levels are an integral part of the CPM. For this purpose measurement tools must be constructed or selected in view of their ability to produce data applicable to evaluation of goal attainment. Whenever any objective is specified, it is possible to devise some means of measuring attainment or failure, so in general, identification of goals and objectives will dictate the nature of the procedure used for assessment. Local districts will have to establish exit assessment criteria that are in keeping with state requirements, local expectations, and professional conviction:

1. How many years will constitute a full secondary experience?
2. What shall constitute basic schooling for a high school graduate?
3. To what extent must marketable skills be taught?
4. Will social maturity be a factor in exit assessment?
5. What is to be done with the student whose entrance competencies exceed the exit criteria?
6. From what source will criteria and objectives be generated?

Use of the instructional programing model will help to answer some of these questions. It is a major method for eliminating assumptive measures of student proficiency and will help professionals to abandon rigid time frames for learning.

Individualization

Before introducing instructional programing techniques with the continuous progress IGE system, it would be best if the reader studied the major variables of program development. Because this paper is directed toward production of programs and courses which accommodate individuals, the program variables are presented in a form which shows extent of individualization. Another way to look at this is to consider individualization to be a unit of measure with which to learn more about an educational program. And, like any unit of measure, "extent of individualization" is like inches, feet, and pounds—neither good nor bad, simply informative.

Using this type of analysis, the reader will be in a better position to understand operational aspects of secondary school programs in IGE/MUS-S. Furthermore, it is hoped that the reader will have a better idea of his own professional experiences and situation in individualized programs and can more accurately gauge his or her position in relation to IGE/MUS-S.

The schematic diagram in Figure 2.4 shows that the primary variable of any program is time. After establishing this primary variable, it is most important to know if goals and objectives are the same for all students, or if each student has unique goals and objectives. The next most important aspect of an individualized program is knowing who sets these goals and objectives. The amount of input by teachers as opposed to students will vary considerably in different situations, and is shown as the letters "T" and "S" with arrows. Materials and experiences constitute the techniques used to achieve the goals and objectives which have been established, and are listed as "materials" for the sake of brevity on the chart. "Common materials" are similar things planned for simultaneous use by groups of students; "individual materials" are unique to each student.

Basic characteristics of most educational programs can be isolated with the assistance of this diagram, and the positions of several have been designated as "areas." Placement and definition of MUS-S on the schematic diagram has not been finalized, but it hopes to adopt operations that cluster in the lower right quadrant: variable time frames, goals and objectives unique to each student, high student input into setting of goals and objectives, and completely individualized materials and experiences.

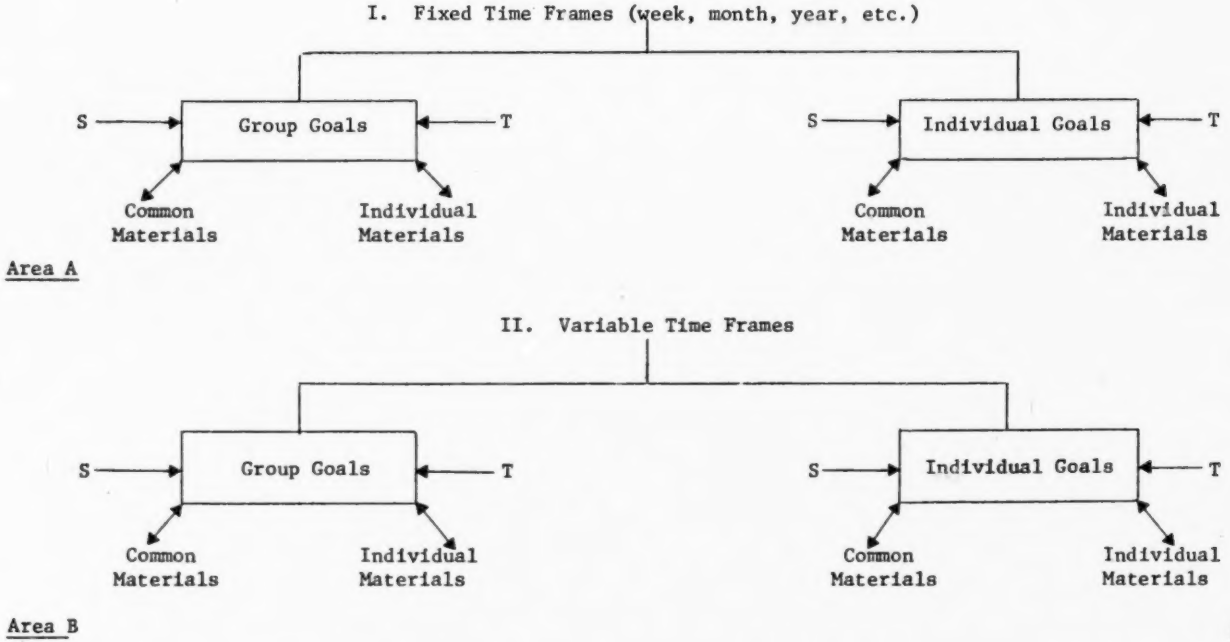
Structure of the IPM

The Instructional Programing Model is a subsystem of IGE designed for the selection and sequencing of teaching-learning techniques

Figure 2.4

PRIMARY VARIABLES OF PROGRAM DEVELOPMENT

This is a diagram showing four combinations of the major variables that determine the extent to which instructional programs are individualized.



Area "A" - Traditional instruction in which all students must complete their studies at the same time, and everyone has the same goals, expectations, and materials as prescribed by the teacher

Area "B" - IPI instruction in which students can take as much time as necessary to complete their studies, but in which they are required to go through the same sequence of materials as everyone else

Area "C" - A free school situation in which there are no time constraints, individual goals are set by student and teacher, and unique materials and experiences are prescribed for each student

in accordance with chosen objectives. It is an outcomes-oriented system based on learning objectives. The four major functions of this system are

1. Formation of purposes and measurable performance of objectives for each learner
2. Preassessment for the purpose of diagnosis
3. Formation of instructional objectives and planning of instructional programs for each learner
4. Postassessment for the purpose of evaluation

These functions operate at each of four IPM levels (district, building, teacher, student), although application may differ slightly at each level. A discussion of each IPM level appears later along with a diagram for each level (Figs. 2.5-2.8).

With the advent of IGE/MUS-S it will be possible to commit school districts to IGE. For this reason it is felt that the scope of the IPM should be extended to include district, building, teacher, and student levels rather than simply general instruction to reflect the implementation of IGE characteristics at all levels. Increasingly districts are establishing, developing, and maintaining a systemwide IGE program, and the IPM will serve as a facilitator in the following areas:

1. As a guide to assessment of present instructional programing (including organization, philosophy, objectives, and assessment)
2. As a guide to reorganization of instructional programing (including organization, philosophy, objectives, and assessment)
3. As a definition of roles and responsibilities for participants in the educational process (including students, instructional and administrative staffs, and community)

The IPM may also be used to facilitate the development and implementation of individualized curricula and continuous progress. In addition, the IPM serves as a subsystem for practical application and implementation of other IGE components such as learning climate, home-school relations, and shared decision making.

The instructional programing process may be used to determine the needs which must be fulfilled for learning to take place. Some of these needs fall into the affective domain and are very much a part of the learning climate component of IGE. In the IPM needs and resources are assessed prior to formation of instructional programs. This sequence provides the opportunity to evaluate the various aspects of learning climate and make appropriate changes where they are necessary.

In IGE shared decision making is assumed to operate at all levels and includes all the participants in the educational process. Two processes must be understood before shared decision making can result. They are (1) the understanding of the decision-making process of the individual, and (2) the understanding of the group process. It is felt that the IPM will facilitate the understanding and implementation of these decision-making processes by presenting a set of guidelines that define those decision-making activities which concern instructional programing.

The role of the home and community in the educational process is developed in IGE through the home-school relations component. Schools alone cannot undertake the total effort of educating the youth of today. Resources as well as expectations of home and community are important and valuable to the educational process.

The implementation of a home-school relations component requires that definite provision be made for input from home and community. It is the IPM in combination with the organizational framework of IGE which provides the guidelines for participation and input from home and community concerning instructional programing.

Thus, the IPM serves not only as a tool for development, implementation and evaluation of the curriculum, but it also serves as a facilitator for the IGE components of learning climate, shared decision making, and home-school relations.

District IPM

Step I involves stating a philosophy of education and setting broad educational outcomes for the student population of the district. Both of these tasks require the combined efforts of representatives from the community, professional staff, and student population. It is recommended that the final confirmation of philosophy and educational outcomes be made by either the central office or school board; however, input from the above-mentioned groups is very important. Shared decision making is a basic IGE component and should be operational at all levels; therefore, the Systemwide Policy Committee (SPC) may function as the structure for organizing and generating these statements.

The statement of philosophy should reflect IGE characteristics—especially the concept of continuous progress—as well as the nature of the particular school district. From this statement of philosophy will emerge the educational outcomes for the student population of the district. These broad educational outcomes should be formulated in terms of performance criteria, intellectual, physical and emotional needs, and the interest orientation of the student population. This statement of broad objectives helps to focus the attention and energy of district and building staffs on the educational priorities. It functions as a set of basic guidelines for the entire district.

Step II involves the assessment of needs and interests of the student population in terms of the expectations of school, community, and students. Available community and district resources must also be assessed before the resources can be allocated properly and instructional programs formulated. Facilities, equipment, instructional materials, and human resources must be evaluated in order to determine the feasibility of instructional programs, the effective and efficient use of resources, and the acquisition of additional new resources. Responsibility for these tasks lies with the SPC or central office with input from the community, staff, and students.

Step III involves making district resources available to facilitate the attainment of educational objectives, which is a responsibility of the central office staff or the SPC.

Resources which should be provided by the district are:

1. Physical facilities
2. Print and nonprint instructional materials
3. Equipment
4. Consultant services
5. Inservice materials and programs

Step IV involves assessing the attainment of district and building educational objectives. This is an evaluative measure to determine the effectiveness of instructional programing in terms of staff and student performance and the use of district resources.

This step requires the development of a means for evaluating the attainment of objectives, which in turn requires the development of criteria for assessing each area or level. The responsibility for this task lies with the central office or SPC.

If the district and building objectives are not attained, it will be necessary for the SPC to reassess the needs and resources of the district. It may even be necessary to reevaluate the district statement of philosophy or statement of educational outcomes. The process of setting objectives and developing and assessing programs would be ongoing and thus would provide a continual renewal or strengthening of the total instructional program.

Building IPM

Step I involves the stating of educational outcomes and the range of objectives to be attained by the student population of the building. The broad educational outcomes set by the district should be used as guidelines. Criteria for setting building objectives may be derived from consideration of the following:

1. Level of achievement
2. Other performance related to level of achievement
3. Intellectual, emotional, and physical needs
4. Interest orientation

The range of objectives which a subgroup of students may be reasonably expected to achieve must be established. This requires the determination of student subgroups. Establishment of student subgroups may be based on one or more of the following criteria: age, intelligence, skill needs, grade level, or interest orientation.

The Instructional Improvement Committee (IIC) has the responsibility for development of these objective-setting tasks. The objectives formulated by the IIC help to focus the attention of the staff on the educational priorities for the student population of the building.

Step II involves the assessment of (1) student performance and level of achievement, and (2) resources needed to attain the educational objectives of the building.

Assessment of student performance and achievement is diagnostic in nature. Once broad educational objectives have been set, assessment of student ability in terms of those objectives can be carried out. Student subgroups and various instructional groupings may be determined after completing this diagnostic assessment.

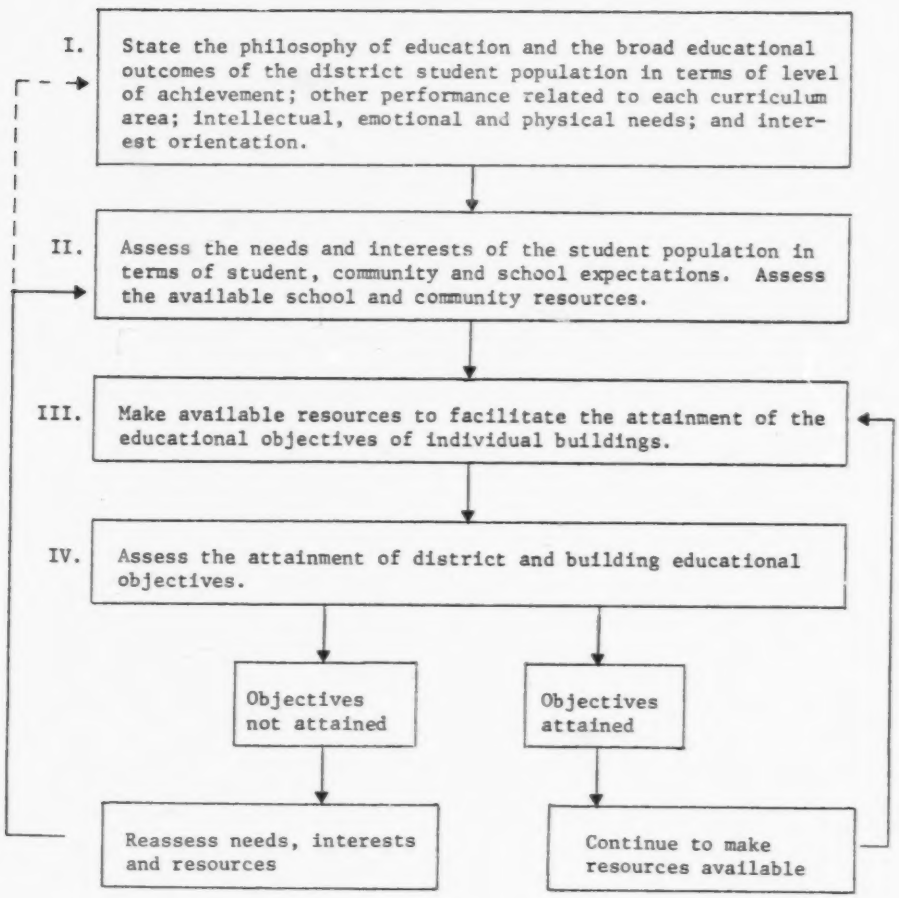
Assessment of building resources is a necessary prerequisite to formation of instructional programs. The IIC carries out this important function by establishing criteria for evaluation of resources. This step is meant to supplement the district's assessment of resources; it is recognized that each building has its distinctive characteristics in terms of resources and needs.

Step III involves making building resources available to facilitate the attainment of educa-

Figure 2.5

DISTRICT INSTRUCTIONAL PROGRAMING MODEL IN

IGE/MUS-S


I.
State the philosophy of education and the broad educational outcomes of the district student population in terms of level of achievement; other performance related to each curriculum area; intellectual, emotional and physical needs; and interest orientation.
II.
Assess the needs and interests of the student population in terms of student, community and school expectations. Assess the available school and community resources.
III.
Make available resources to facilitate the attainment of the educational objectives of individual buildings.
IV.
Assess the attainment of district and building educational objectives.
Objectives not attained
Objectives attained
Reassess needs, interests and resources
Continue to make resources available

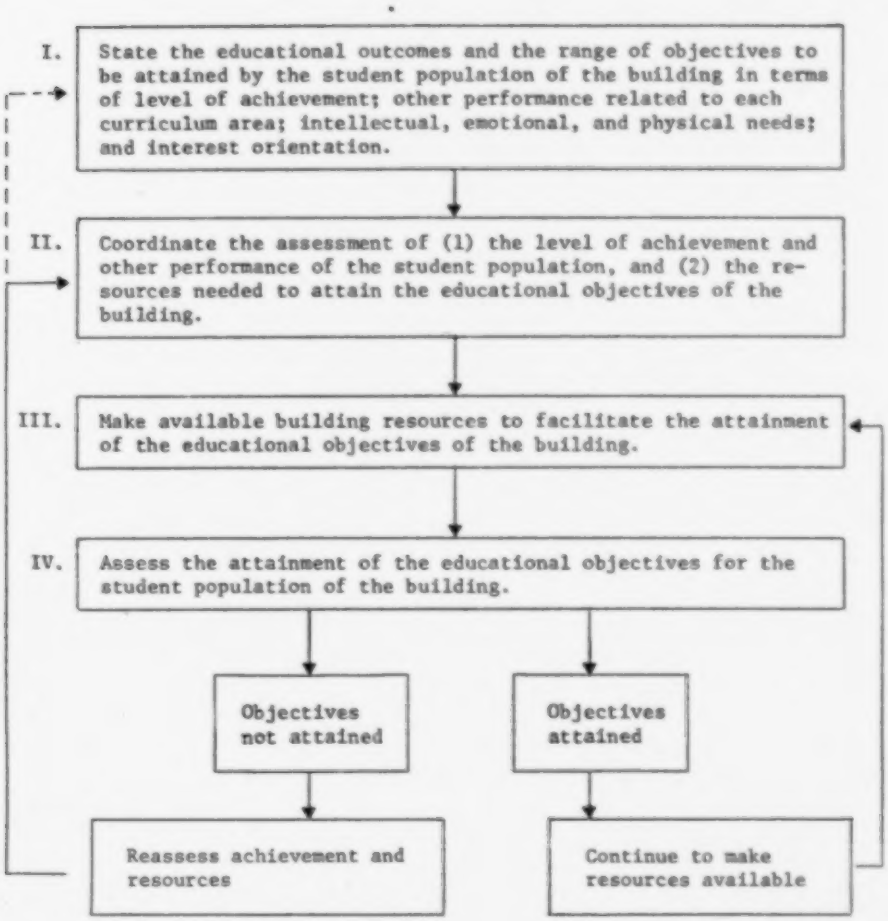
_____ Feedback Loop

_ _ _ _ _ _ _ Optional/Additional Course of Action

Figure 2.6

BUILDING INSTRUCTIONAL PROGRAMING MODEL IN

IGE/MUS-S


I.
State the educational outcomes and the range of objectives to be attained by the student population of the building in terms of level of achievement; other performance related to each curriculum area; intellectual, emotional, and physical needs; and interest orientation.
II.
Coordinate the assessment of (1) the level of achievement and other performance of the student population, and (2) the resources needed to attain the educational objectives of the building.
III.
Make available building resources to facilitate the attainment of the educational objectives of the building.
IV.
Assess the attainment of the educational objectives for the student population of the building.
Objectives not attained
Objectives attained
Reassess achievement and resources
Continue to make resources available

_____ Feedback Loop

_ _ _ _ _ _ _ Optional/Additional Course of Action

tional objectives. This again is the responsibility of the IIC; and, as at the district level, the IIC must set criteria for allocation and acquisition of human and material resources in order to provide for the best possible use of these resources. Generally speaking, the IIC will be engaged in evaluating and distributing resources which the district has allocated for the building.

Resources which might be administered by the IIC include:

1. Building facilities
2. Print and nonprint instructional materials
3. Equipment
4. Consultant services
5. Inservice materials and programs

Step IV involves assessing achievement of the educational objectives of the building. This is an evaluative step which is meant to determine the effectiveness of the instructional program, use of resources, and performance of staff.

The IIC should undertake the development of evaluative criteria for each subject area and follow the guidelines set by the district for general evaluation.

If certain objectives are not attained, it may be necessary to reassess student performance levels and resources needed to achieve building goals. In some cases it may be necessary to reevaluate the educational outcomes or range of objectives which were originally set by the IIC. Changes are expected to occur, and it is the continual process of objective-setting and evaluation which will facilitate the development of an effective and vital instructional program.

Teacher IPM

Step I involves stating long- and short-term educational objectives for each subject area. In setting these educational objectives entry- and exit-level competencies should be determined; that is, the desired level of competence necessary for a student to begin learning the course content and the level of competence necessary to indicate mastery of the skills and concepts for exit purposes. In determining these competencies a teacher should consider the nature of the subject area, the nature of the students, and the judgment and knowledge of the teacher.

It is recommended that teachers in each discipline generate the educational objectives for the subject areas which are part of that discipline. For example, math teachers would decide the objectives for algebra, geometry, and calculus. It then becomes the task of the math teacher(s) in each division to organize these objectives into a scope and sequence which are consonant with the interest orientation of the division.

Step II involves assessing each student's level of achievement, learning style and motivation level. This is a diagnostic process which requires the use of a variety of assessment tasks (e.g., criterion-referenced tests, observations, work samples) for each curriculum area so that a learning profile may be established for each student. The assessment instruments may be developed by the teacher or may be selected from a variety of commercially prepared tests. Once a learning profile has been established it is possible to set appropriate, specific behavioral objectives for each student.

Step III involves the determination of short-term behavioral objectives. These objectives are specific in nature and are concerned with small units of work, such as individual skills or concepts, which may be learned during short periods of time.

At this point in the instructional programing process the student may share in the decision-making process of program development. Student responsibility for shared decision making is a vital part of instructional programing; however, it may be contingent upon each student's maturity and readiness for responsibility.

The student's advisor and parents also play a role in instructional programing. The shared decision-making process allows the student to discuss his personal educational goals with his advisor, teacher, and parents. It is felt that this process will facilitate learning for the student because each participant in the educational process will have a better understanding of the student's educational objectives.

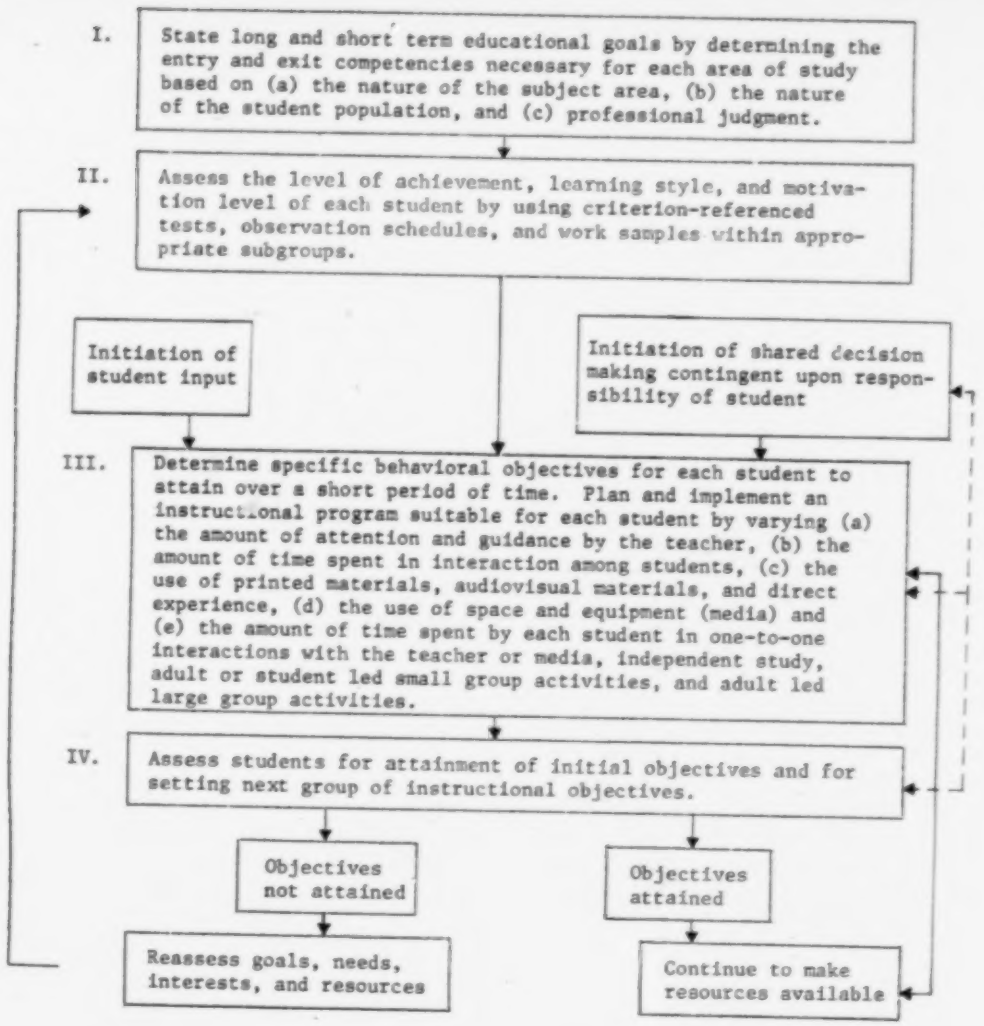
In addition to determining specific behavioral objectives, the division/team teachers must plan and implement a suitable instructional program. To do this a teacher must consider the following for each student:

1. The amount of attention and guidance by the teacher
2. The amount of time spent in interaction among students
3. The use of printed materials, audio-visual materials and direct experience
4. The use of space and equipment
5. The amount of time spent by each student in one-to-one interactions with the teacher or media, independent study, adult- or student-led small-

Figure 2.7

TEACHER INSTRUCTIONAL PROGRAMING MODEL IN

IGE/MUS-S


I.
State long and short term educational goals by determining the entry and exit competencies necessary for each area of study based on (a) the nature of the subject area, (b) the nature of the student population, and (c) professional judgment.
II.
Assess the level of achievement, learning style, and motivation level of each student by using criterion-referenced tests, observation schedules, and work samples within appropriate subgroups.
Initiation of student input
Initiation of shared decision making contingent upon responsibility of student
III.
Determine specific behavioral objectives for each student to attain over a short period of time. Plan and implement an instructional program suitable for each student by varying (a) the amount of attention and guidance by the teacher, (b) the amount of time spent in interaction among students, (c) the use of printed materials, audiovisual materials, and direct experience, (d) the use of space and equipment (media) and (e) the amount of time spent by each student in one-to-one interactions with the teacher or media, independent study, adult or student led small group activities, and adult led large group activities.
IV.
Assess students for attainment of initial objectives and for setting next group of instructional objectives.
Objectives not attained
Objectives attained
Reassess goals, needs, interests, and resources
Continue to make resources available

——————— Feedback Loop

– – – – – – – – Optional/Additional Course of Action

group activities, and adult-led large-group activities.

Other considerations which must be taken into account are individual and group needs and staff assignment to teacher-learner (T/L) groups based on expertise.

Step IV involves assessing student achievement of educational objectives. This is an evaluative process which determines mastery of the objectives. Various methods of assessment may be used to determine mastery or exit competency (e.g., 80% score on criterion-referenced test, work samples, behavior change, teacher judgment). Some educational objectives may require several means of assessment to determine exit competency. Assessment of performance should be based on attainment of the objective. This is the reason that setting objectives and entry- and exit-level competencies is so important. For if these are clearly defined, then final evaluation of mastery is easier and more accurate.

When a student's performance has been evaluated and he has achieved mastery, then new objectives are set and a new instructional program is planned and implemented.

If a student does not attain the objective, he should be further evaluated by the teacher who taught the T/L group and the other teachers in the division/team if necessary. Consideration of the following items may help in determining the reasons for nonattainment of objectives.

1. Readiness for the objective
2. Additional practice necessary to achieve the objective
3. Methods used
4. Materials used

Student IPM

The student in an IGE school should have shared decision-making opportunities. Readiness for this responsibility will vary; however, the majority of students will participate to some degree or at some level in the shared decision-making process. The student IPM was devised to help students better understand their place in the total IGE system and to help them understand the process of instructional programing.

Step I involves determining the student's personal educational objectives. The process of determination of these objectives is carried out cooperatively with the student's parents, counselor, and advisor. This shared decision-making relationship should help to establish the student's educational goals based on his own interests, abilities, and needs. At the same time that a student is trying to define his educational goals, he may discuss how he will achieve these goals. Some students may choose to emphasize independent research and study, others may feel the need for skill development and a greater amount of teacher guidance, and still others may desire to learn through direct experience.

When a student has formulated his educational objectives and decided upon areas of study, he should discuss the subject-area goals with the teachers in those content areas. If the student discovers that the course objectives are in conflict with his personal educational goals, he should confer with his advisor and/or counselor again. An attempt to resolve the conflict should be made before the student becomes involved in the course of study.

Step II involves shared responsibility for setting specific behavioral objectives and planning and implementing an instructional program. The degree to which the student becomes involved in these responsibilities is contingent upon his readiness and desire to do so. Participation in the educational process should be encouraged, for development of lifelong learning skills is one of the goals of education.

In helping the teacher to plan and implement an instructional program, the student may help to determine:

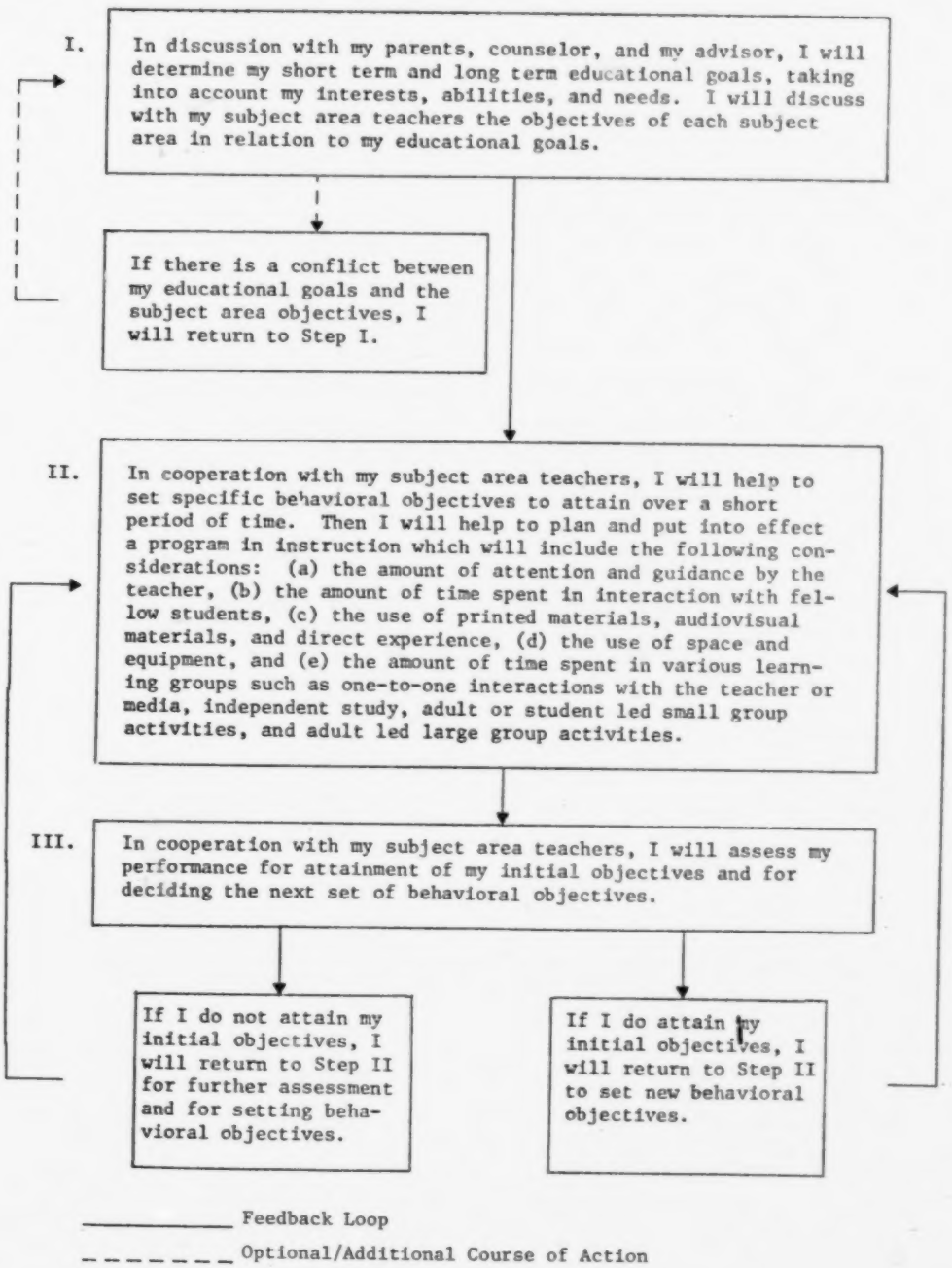
1. The amount of attention and guidance by the teacher
2. The amount of time spent in interaction with fellow students
3. The use of printed materials, audiovisual materials, and direct experience
4. The use of space and equipment
5. The amount of time spent in various learning groups such as one-to-one interactions with the teacher or media, independent study, adult- or student-led small-group activities, and adult-led large-group activities.

Step III involves the cooperational effort of student and teacher in assessing the student's performance and attainment of behavioral objectives. Situations will vary and so will the amount of student involvement in evaluation. In some cases students may decide when to test themselves, self-correct the test and record the results. This would be true when certain programed learning materials are used. At other times a student may be asked to assess his own performance, and then his assessment would represent one aspect of the final

Figure 2.8

STUDENT INSTRUCTIONAL PROGRAMING MODEL IN

IGE/MUS-S


I.
In discussion with my parents, counselor, and my advisor, I will determine my short term and long term educational goals, taking into account my interests, abilities, and needs. I will discuss with my subject area teachers the objectives of each subject area in relation to my educational goals.
If there is a conflict between my educational goals and the subject area objectives, I will return to Step I.
II.
In cooperation with my subject area teachers, I will help to set specific behavioral objectives to attain over a short period of time. Then I will help to plan and put into effect a program in instruction which will include the following considerations: (a) the amount of attention and guidance by the teacher, (b) the amount of time spent in interaction with fellow students, (c) the use of printed materials, audiovisual materials, and direct experience, (d) the use of space and equipment, and (e) the amount of time spent in various learning groups such as one-to-one interactions with the teacher or media, independent study, adult or student led small group activities, and adult led large group activities.
III.
In cooperation with my subject area teachers, I will assess my performance for attainment of my initial objectives and for deciding the next set of behavioral objectives.
If I do not attain my initial objectives, I will return to Step II for further assessment and for setting behavioral objectives.
If I do attain my initial objectives, I will return to Step II to set new behavioral objectives.
Feedback Loop
Optional/Additional Course of Action

evaluation process. When working in small groups, students may become involved in evaluation of other students' performance.

There is a wide range of possibilities for student involvement in the evaluation process, and it is important that students participate in evaluation in as many ways as possible. In doing so they can begin to develop the skills necessary for evaluating their own goals, performance, values, and actions throughout life.

If a student attains his objectives, he may then begin to set new behavioral objectives and plan another instructional program.

If a student does not attain the objective, he may help the teacher to determine the reasons for nonattainment, and a course of action can then be cooperatively developed.

Learning Climate

Individually Guided Education (IGE) is a system which has several central components that are necessary for its application. IGE/MUS-S has identified seven components, and one that is of central importance is learning climate. Learning climate may be defined as the combination of those goals, attitudes, and values that affect learning. Basically, this definition describes a state of mind.

The learning climate which exists in any particular school is the result of the state of mind that the various people involved with the school have. In other words, the learning climate in a school is dependent on the attitudes of teachers, students, and other involved people. If these attitudes are conducive to learning, then there is a greater chance that learning will take place. The same reasoning applies to the values and goals of the people who are involved with the school.

Much of the present research and discussion of our schools shows that learning is not taking place in our schools. IGE/MUS-S believes that one of the reasons for this is that the learning climate in the school is poor. The teachers are frustrated, the students are "turned off," the curriculum is not relevant, and the parents are upset. One of the major factors contributing to this lack of learning lies in the affective domain, that part of learning which deals with emotions, attitudes, values, goals, and emotional development. The "traditional school" has never really concerned itself with this area. The cognitive process, intellectual learning, has been the main concern of the school system. Schools have adhered to the "three R's" philosophy and have left the affective part of learning to the home.

It is necessary to consider and to develop ways to increase the affective learning in our schools. The affective domain is where values and attitudes are learned and where socialization takes place.

The Wisconsin Association of School Boards, Inc. (1971, pp. 9-14), has specified four areas useful in the development of a learning climate. They are (1) environment, (2) curriculum, (3) instruction, and (4) community.

Environment

An "environment for learning" in which

1. Teachers and pupils can interact freely with one another and with their peers.
2. Teachers share the responsibility of diagnosis, prescription, and evaluation of learner needs in a cooperative effort.
3. Maximum and optimum use of resources, efforts, and facilities is provided.
4. All the learning modes are recognized and employed.
5. Continuous progress is supported.
6. All available resources for learning are identified and made readily available for the learner.
7. Provisions are made for strong leadership.
8. Roles are defined and differentiated.
9. Cooperative planning is the operating model.
10. Community involvement and support are encouraged and solicited.

Curriculum

A curriculum in which

1. Educational goals are cooperatively determined by students and teachers.
2. Learning experiences are organized to meet individualized and group needs of students.
3. Learning experiences are organized for subgroups of one student or several students.
4. Learning experiences are organized for subgroups of students with common needs rather than with common ages.

5. Learning experiences are organized to emphasize critical thinking, valuing, attitudes, self-concept, and self-actualization in balanced proportions along with the cognitive skills.
6. The real world and the problems it presents to the early adolescent serve as focal points.
7. Students are provided instructional options in order that they may explore areas of interest and concern.
8. Personal-social developmental needs of children are stressed.
9. Student guidance is emphasized.
10. Students select advisors who will assist, guide, and counsel.
11. Humaneness is paramount.
12. Basic skills development is based upon continuous progress of individual students.
13. There is continuous student and teacher evaluation of progress toward realistic goals.
14. Evaluation of student progress is accompanied by immediate feedback to students.

Instruction

An instructional approach through which

1. Cooperative planning and teaching are involved.
2. Individual personal intellectual inquiry is stressed.
3. Performance objectives are determined.
4. Contractual agreements between student and teacher concerning performance criteria are included.
5. A variety of instructional materials and aids that are readily available to students are provided.
6. A variety of grouping patterns, e.g., large group, small group, independent study, paired learning, student- and teacher-led tutorials are utilized.
7. Variable lengths of learning periods are allowed.
8. Continuous appraisal of student progress and teacher effectiveness is included.
9. Instructional effectiveness is assessed by means of performance criteria and peer evaluation.

Community

A "community involvement" plan through which

1. Positive school-community relations are ensured and promoted.
2. Parents and community members are invited to visit school and to participate with students and faculty in goal setting, learning, and appraisal.
3. Residents' skills and talents are utilized as resources (volunteer and salaried) in the teaching-learning process.
4. Paraprofessionals from the community are employed as assistants in the teaching-learning enterprise.
5. Students are involved in community agencies and action programs.
6. A climate which encourages two-way and continuous communication between the school and the community is erected.
7. The school is recognized as a part of rather than separate from the community.

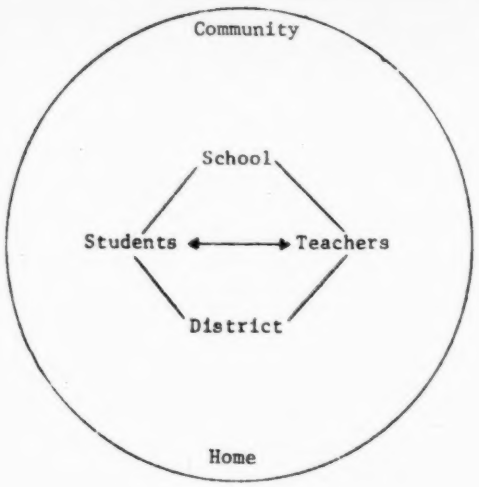
Given all of the above as statements that are necessary when one is implementing a learning climate, there is more that is necessary to ensure the development of a learning climate that will help produce the best possible education; that is, an analysis of the various factors that affect the learning climate in a particular school. Many of the above statements refer to different groups that have an effect on the learning climate. Unless these groups have an understanding of each other's effect on the learning climate and work together in promoting the best possible educational process, then all the ideas already expressed will not be of very much benefit.

Six groups have been identified as basic factors in the establishment of a learning climate. These six groups, called "determiners" of the learning climate, are

1. Students
2. Teachers
3. School
4. District
5. Home
6. Community

A pictorial representation of the interrelations between these six determiners is presented in Figure 2.9.

Figure 2.9



The large circle represents the learning climate in a particular school. All six determiners have an effect on how the particular learning climate functions. The basic, primary relationship is between the students and the teachers. It is here that the basic interaction that produces learning takes place. Unless both these elements are aware of their own and each other's effect on the learning climate, then the goal of the best possible education is likely to suffer due to misunderstanding and a lack of cooperation from both groups. Added to this primary relationship is the effect of the school and the district. Since both of these groups have an effect on both groups in the primary relationship, their effect must be taken into account. It is unrealistic to expect students and teachers to try to pursue an open and individualized type of educational process if the school and/or district are at odds with this type of education. This is one of the reasons why IGE/MUS-S has developed instructional programing models for both the district and the school. Likewise it is unrealistic to assume the school or district can pursue an IGE type of educational process without the cooperation of the students and the teachers. Thus, these four groups of determiners need to work closely together to develop the best learning climate. The last two determiners are the home and the community. Educators and educational researchers have mostly ignored the effect of the home and the community on the educational process. IGE/MUS-S feels, and some recent educational research has shown, that the home and the community do have a real effect on the educational process and can be a definite asset to the school. Thus, to have an effectively operating learning climate, it is necessary to take the home and the community effect into account and to have their support for providing the best possible education.

Measurement and Evaluation

Information about student characteristics, achievement, learning styles, and motivation in the cognitive, affective, and psychomotor domains provides input into decision making, communication, and accountability processes necessary for a continually evolving learning environment. Criterion-referenced tests, work samples, and observations of behaviors should be used to assess student entrance competencies, student progress, and student exit competencies. This information should be fed back to the student, teacher, and parent to serve as a guide in determining each student's educational program. Norm-referenced tests may also be used to secure information about a student's abilities and achievements of a more general type. Information should also be obtained regarding the evaluation of each IGE/MUS-S component; based upon the results, revisions and new components for the secondary model can be developed.

Organizational Framework

Because the middle/junior high school emphasizes functions of education quite differently than does the senior high school, it is necessary that each be organized to facilitate its unique emphasis. The middle/junior high school places more emphasis on advanced schooling activities and on exploratory experiences; therefore, it needs a less specialized curriculum than is found in a senior high school. Also, students need to identify with a relatively small teaching unit at this level, both to assist personal relationships and to allow teachers to monitor skill development closely. The senior high school must provide opportunities for students to explore more highly specialized areas of study according to their own inclinations. Also, senior high students have less need for full-time participation in a restricted instructional unit, and it is not as important that teachers monitor basic skills. The next two sections explain

the type of organization proposed for middle/junior high schools and senior high schools respectively.

Middle/Junior High School

The vehicle used to implement IGE/MUS-S is the organization. It is a means to an end. It is *not* an end unto itself. The basic premise of clustering groups of teachers with groups of students is carried throughout middle/junior high school as well as throughout senior high school.

The primary method of clustering teachers in the middle/junior high school is to group the academic teachers as a unit and the elective teachers as another unit.

Middle/Junior high school is defined as an educational setting composed of students aged 11 through 14 years or more commonly as grades six through nine. An abundance of literature deals with the behavioral characteristics as well as the emotional and physical needs of students in this age group. It generally agrees that early adolescence has a wider range of differences in emotional, physical, and social maturity than any other developmental stage of school-age children. These diverse levels of maturation, within each individual and among individuals, demand instructional techniques different from those previously employed or those which may be employed in later stages of development.

Tasks and Goals

The Wisconsin Association of School Boards (1971, p. 8) identified several critical needs of early adolescence:

1. To understand himself (aptitudes, attitudes, interests, goals, strengths, and weaknesses)
2. To understand his relationship to his peers
3. To understand himself in relation to and as a part of his society
4. To develop those skills necessary to accomplish the others
5. To gain a sense of security in a resource-filled but sometimes inconsiderate environment

William Alexander and others (1968) developed their interpretation of the purposes of the middle school by stating that the middle school should

1. Service the educational needs of the "inbetween-agers"... in a school bridging the elementary school for childhood and the high school for adolescence.
2. Provide optimum individualization of curriculum and instruction for a population characterized by great variability.
3. Relating to the foregoing aims, to plan, implement, evaluate, and modify in a continuing curriculum development program a curriculum which includes provisions for: (a) a planned sequence of concepts in the general education area; (b) major emphasis on the interests and skills for continued learning; (c) a balanced program of exploratory experiences and other activities, and services for personal development; and (d) appropriate attention to the development of values.
4. Promote continuous progress through and smooth articulation between the several phases and levels of the total educational program.
5. Facilitate the optimum use of personnel and facilities available for continuing improvement of schooling [Alexander, Williams, Compton, Hines & Prescott, 1968, p. 19].

Madison Public Schools, Madison, Wisconsin, reorganized its school district from a junior high school to a middle school organization. The first junior high school to convert to a middle school attempted to define its goals:

> The middle school should create a learning environment that provides stability, promotes self-confidence, and one which is sensitive to the needs of each individual child. Within that environment
> . . . the child should develop a unique understanding of himself and his relationship with others.
> . . . the child should identify and explore his interests and abilities through a variety of contacts with a number of different subjects.
> . . . the child should have opportunities to develop his own interests and abilities.
> . . . the child should experience a gradual transition from child-centered elementary school experiences to the more subject-oriented secondary school experiences.
> . . . the child should develop basic

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learning skills and have opportunities to apply these skills.

. . . the child should develop a body of knowledge that is drawn from all subject areas.

. . . the child should be able to transfer the skills and content learned in one subject area to another subject area.

. . . the child should understand that change is a part of his life and have opportunities to develop positive attitudes toward it.

. . . the child should make responsible decisions and exhibit increasing self-direction for his own learning program [La Follette Middle School Staff, 1969].

In synthesizing the goals and tasks of the middle/junior high school as derived from various sections of the country and in interviewing students, teachers, parents, principals, and board of education members, a general consensus of opinion was that the present organizational framework was not meeting the needs of the middle/junior high school. It was apparent that present middle/junior high schools were making *no* concerted and combined efforts to evaluate the process of how well they were meeting their defined goals and tasks.

The IGE/MUS-S middle/junior high school organizational framework is developed to ensure better success in terms of rearranging the five educational variables (teachers, students, time, space, and resources) into a more meaningful environment so as to allow the goals and tasks of the middle/junior high school to be more fully realized by each student.

Building Organization

The basic philosophy of IGE is that all operations at the middle/junior high school level be directed toward individualizing learning for the student. To achieve this purpose, the following organizational framework has been designed. An *instruction and research unit* (I & R unit) composed of a number of teachers and a number of students who carry the responsibility of teachers teaching and students learning.

An *Instructional Improvement Committee* (IIC) in which staff members work with the building principal to coordinate instructional decisions.

The *Systemwide Policy Committee* (SPC) which sets district goals and objectives.

The organizational structure of the MUS-S (middle/junior high school) is essentially a straight-line hierarchy. There are, however, horizontal relationships that exist, and these relationships will be discussed later. The straight-line structural hierarchy of the unit, the IIC, and the SPC appear in Figure 2.10. A more detailed diagram of the building organization is shown in Figures 2.11 and 2.12.

The basic premise for the organizational framework of the middle/junior high school is the *clustering of a group of teachers with a group of students for instructional purposes.*

Instructional and research unit. The multiunit middle/junior high school model retains the MUS-E concept of clustering a group of teachers with a group of students for instructional purposes. There are basically two types of I & R units, (1) the academic units of English, social studies, science, and math and (2) the special area units of art, music, industrial arts, home economics, and physical education. Foreign language subjects (if they are offered) can be placed in either type of I & R unit. Both types of I & R units have a block of time for instructional purposes as well as common planning time. The academic unit would not necessarily have the same students as the special area unit.

The academic unit with its block time and common planning time is charged with the responsibility of providing for educational experiences in the before-mentioned discipline areas. The opportunities for various grouping patterns, teaching strategies, combinations of in- and out-of-school experiences, and time elements that the academic unit can provide are unlimited. Basically, the special area unit provides for exploratory experiences allowing students to investigate various interest areas before their senior high school experiences with in-depth study and specialization. The special area teachers have the same opportunities for variation as the academic teachers, thus promoting and enhancing the interest areas of the students.

The student makeup of a unit can either be vertical or horizontal. In other words, it may contain students from only one grade level or from all grade levels. The philosophy of continuous progress/nongradedness, however, is more easily implemented with the vertical makeup of students.

Instructional improvement committee. With the existence of three, four, or five I & R units in a middle/junior high school, there is a very important need to maintain communications among staff. This is apparent when the utilization of common facilities is necessary for maximum educational value. Instead of ridigly scheduling common facilities (IMC, commons, cafeteria, and so forth) at the

Figure 2.10

MUS-S Organization

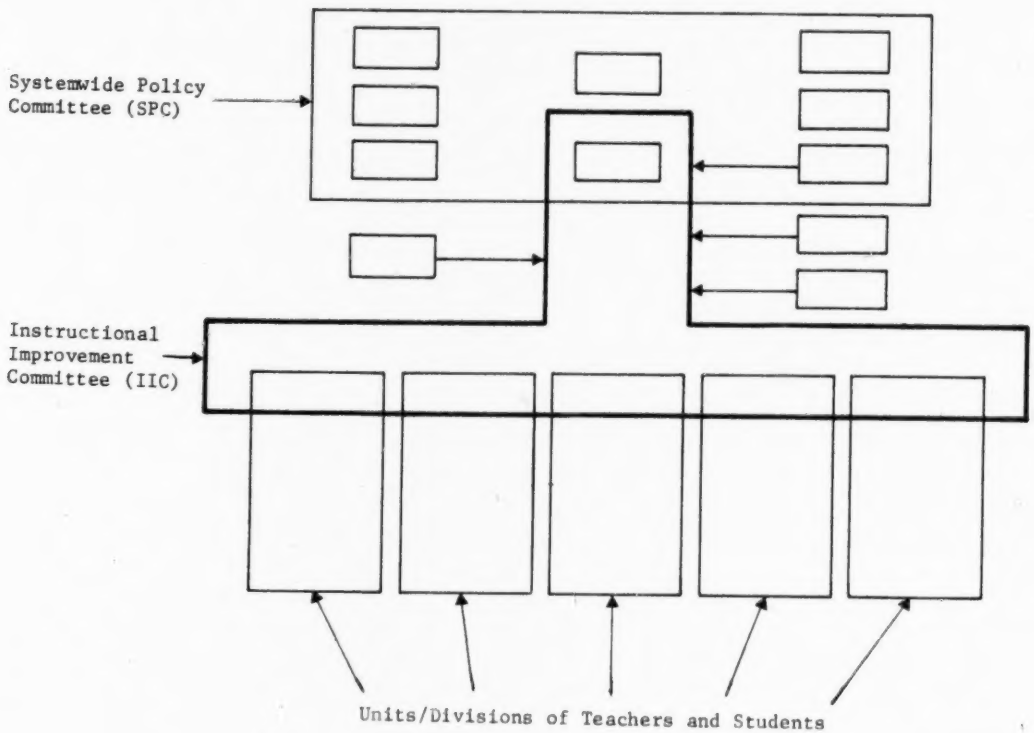


Figure 2.11

SPC

IIC

I & R Unit

Unit Leader

Unit Teachers

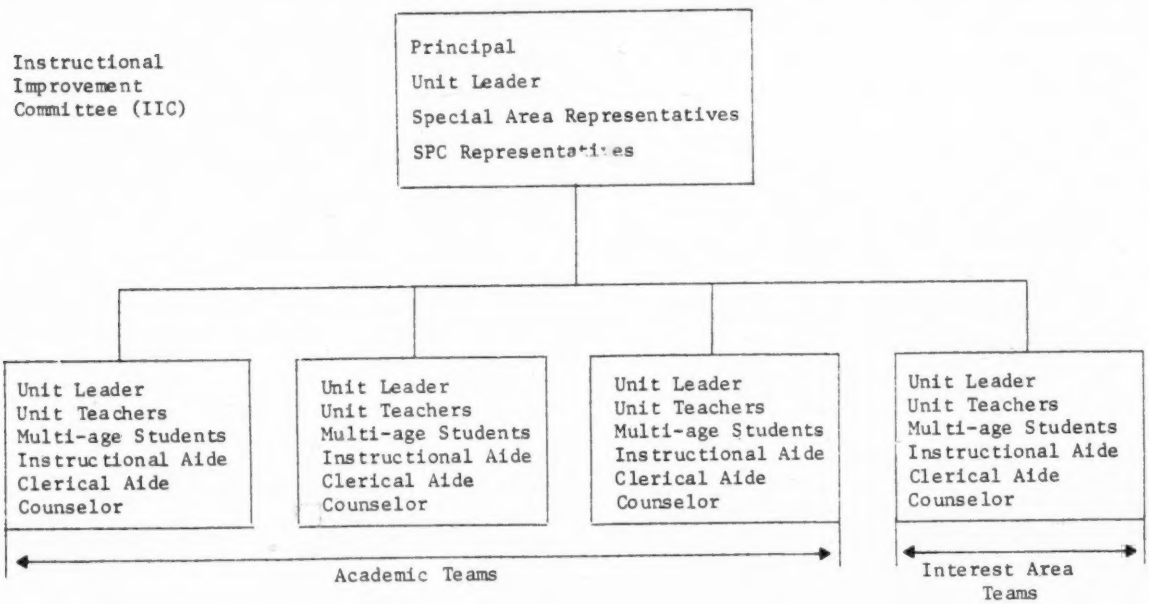
Students

Counselors

Aides

Figure 2.12

ORGANIZATIONAL FRAMEWORK OF AN IGE/MUS MIDDLE/JUNIOR HIGH SCHOOL



beginning of the year and then retaining the same schedule, a flexible weekly schedule is adopted.

The process of this kind of shared decision making concerning the instructional program is accomplished through the Instructional Improvement Committee (IIC).

The IIC has four main functions:

1. Stating the educational objectives and outlining the educational program for the entire domain within its jurisdiction
2. Interpreting and implementing systemwide and statewide policies that affect the educational program of the building
3. Coordinating the activities of the divisions to achieve sound educational outcomes for each student
4. Arranging for the use of facilities, time, and resources for maximum educational benefit to teachers and students

Thus, the IIC deals primarily with planning and coordinating functions related to the instructional program.

The support services found at the middle/junior high school level generally make their major impact at the IIC level. This impact is in the form of general services to the school. Support personnel make their specific services available to teachers and students at the I & R unit level. Support service personnel generally consist of the school nurse, school social worker, school psychologist, behavioral disability teacher, guidance counselor, and teachers of the educable mentally retarded, learning disability, and so forth. These specialized personnel work with the IIC on an "ad hoc" or a "permanent" basis in regard to the overall instructional program of the school, but also work with the units on a teacher-student level. All support personnel are integrated with the instructional program to develop the maximum potential of *each* student in the school.

Systemwide policy committee. To facilitate the substantial change needed to move from a traditional to a multiunit middle/junior high school, the Systemwide Policy Committee

(SPC) is created as a third body in the organization. This group is less involved in instructional decisions and more concerned with general allocation of resources. The committee is chaired by the superintendent or his representative, and includes consultants and other central office personnel, and representatives from the IIC, from the I & R unit leaders and staff teachers and from students, the board of education, parents, and the general community.

The SPC is responsible for

1. Identifying the functions to be performed in each MUS-S middle/junior high school in the district
2. Recruiting personnel for each MUS middle/junior high school in conjunction with the principal and providing for the necessary inservice training
3. Allocating the necessary resource materials
4. Disseminating relevant information within the district and community

The SPC is the policy-making body for the total MUS program in the school district and coordinates the activities of each school to the total school district.

The master schedule of a typical middle/junior high school is represented in Figure 2.13. The key concept of clustering groups of teachers with groups of students is shown along with the common planning time for the teaching group. Built into this organizational structure are block time for instructional purposes and common planning time for instructional decisions.

Personnel

Principal. The principal in a multiunit middle/junior high school has two major areas of responsibilities: (1) instructional leadership for the total building and (2) management responsibilities for the building. Each of these responsibilities is explained below.

1. Instructional Leadership

(a) The principal is responsible for promoting a positive, creative atmosphere for optimum growth and development for everyone in the school. The principal, by his very nature of being responsible for the building, sets the tone of the educational setting.

(b) The principal encourages a system of individually guided education that meets the needs and interests of all students in the building. Through leadership abilities the principal develops a system whereby the teachers believe in and function in a program which identifies each student as an individual. This system must have a sound theoretical and philosophical background as well as a sound operational basis. Only through leadership ability can a total building progress as a single unit.

(c) The principal involves teachers in the decision-making process at the most appropriate instructional levels. Within the multiunit middle/junior high school the process of shared decision making is initiated at two instructional levels: the Instructional Improvement Committee (IIC) and the Instruction and Research Unit (I & R unit).

(d) The principal provides the staff with stimulating, good sound inservice educational activities. The principal constantly strives to design educational programs which more adequately meet the needs and interests of each individual student. Through well-thought-out and well-organized inservice activities the staff will continue to design new and better instructional programs for students. Inservice activities can and should cover a wide range of activities, always attempting to meet the professional needs of the individual teachers. Activities such as presentations by district experts, university speakers, and private consultants, as well as building staff, have a part to play in various educational inservice activities.

(e) The principal coordinates the instructional operations and resources. As the person in charge of the total building in regard to educational experiences for the students, the principal must determine the necessary allocation of resources, both human and material. Through the use of his leadership expertise the management of these resources can be properly handled through the shared decision-making process.

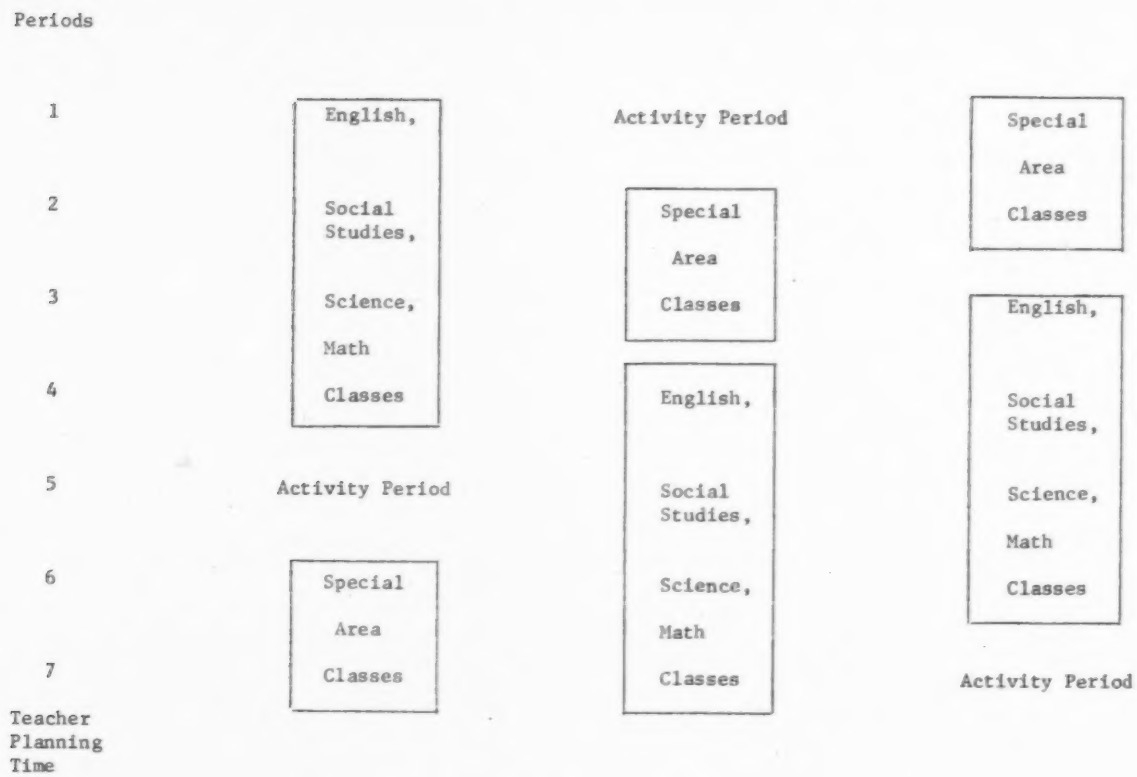
(f) The principal supervises and evaluates the staff. This area of responsibility is delegated to the principal from the district officer. Through the guidance and direction of the principal the staff will grow in professional teaching skills. Only through mutual concern for students can the teacher-principal relationship develop into a truly supervisory and evaluative means for improving professional growth. This relationship must be positive and constructive, with supervision and evaluation the means to an end—not an end in themselves.

2. Management Responsibilities

(a) The principal has management responsibilities as a member of the Systemwide

Figure 2.13

PROTOTYPIC MASTER SCHEDULE
MIDDLE/JUNIOR HIGH SCHOOL



Policy Committee (SPC). This committee has definite functions to perform, and the ability to provide the proper input results in a functional SPC. Utilization of management skills results in the district-level responsibilities being met as the district progresses toward meeting the interests and needs of all students.

(b) Through the shared decision-making process with the IIC the principal coordinates the use of facilities, instructional materials, and equipment. The principal, as a manager of the building's resources, is held accountable for the operational aspects of the building, and through sound and proper management of these resources the educational experiences for the students will be at the optimum level.

(c) The principal must use management skills to work with the instructional units to utilize the unique talents and competencies of the staff members for the good of the students in the school. The principal, schooled in interpersonal relations and group dynamics, manages the staff so as to allow them to grow in professional skills and expertise.

(d) Concern for the maintenance of the facilities and equipment is also the responsibility of the principal. A well-organized program for the purchase and upkeep of capital items is necessary. This results in an atmosphere which reflects a positive learning climate for both teachers and students.

(e) The utilization of shared decision-making processes to help determine the instructional program is a necessity in a multi-unit middle/junior high school. As a result of shared decision making, however, someone must provide the expertise in following through regarding these decisions. The role of the principal is to procure instructional materials and equipment to effectively carry out a program of individually guided education.

(f) The responsibility of being the com-

munications agent of the building falls upon the principal. It is through his managerial skills that home-school-community relations take on a more positive relationship. Either through the delegation of this task with the principal as an "overseer" or under the direct control of the principal, a communications network must be established. The communications include all aspects of the school, i.e., teachers, students, parents, and community.

(g) The recruitment and selection of new staff is a vital operation. Unit leaders and unit teachers are excellent sources for help in recruiting new staff. The new staff must be well oriented regarding the philosophy and objectives of the school.

The above-mentioned roles and responsibilities are not totally comprehensive in nature. They are meant to be indicative of the new role that the principal must fill in IGE/MUS middle/junior high school educational settings. Each local school district must supplement these responsibilities to meet local situations.

Unit leader. The unit leader is a teacher—not an administrator or a supervisor. This important concept must be maintained throughout the school operation if the unit is to function properly. The primary responsibilities of the unit leader are (1) instruction, (2) staff development, and (3) research and development, innovation, and diffusion. The roles and responsibilities of each of these three areas will be explained in detail below.

1. Instruction

(a) The unit leader assumes leadership in developing, carrying out, and evaluating an IGE program in the unit which includes objectives, materials, equipment, and activities. The unit leader works closely with the unit staff, the building principal, subject-matter specialists, school support personnel, and others.

(b) The unit leader coordinates the assessment of student characteristics and progress in the unit and helps teachers to properly place students in appropriate learning activities.

(c) The unit leader serves as a representative on the IIC regarding the unit's activities in the instructional program, the need for instructional materials and equipment, needs and requests for school support services, and many other areas of concern regarding the implementation of IGE.

(d) The unit leader schedules regular unit meetings to plan activities for the students in the unit. The unit leader must see that the agenda is prepared in advance, following input from the unit teachers. The unit meeting is the heart of the unit's instructional program. This meeting combines the thoughts and efforts of the team in order to provide maximum educational experiences for their students.

2. Staff Development

(a) The unit leader coordinates with the principal and the IIC the preschool and inservice activities for the unit teachers. The preservice and inservice activities are for all staff, including interns, practice teachers, instructional aides, clerical aides, counselors, school support service personnel, custodians, students and parents. All staff must be oriented to and focused upon the concepts underlying IGE.

(b) The role of the unit leader is to strive constantly to help the teacher in the unit grow in professional skills, attitudes, and knowledge. Through well-planned and organized preschool and inservice activities the unit teacher can become better equipped to function in the multiunit middle/junior high school.

3. Research and Development, Innovation, and Diffusion

(a) Research is a necessary component of IGE. Research can be of varying degrees of intensity. The term "research" should be interpreted in its broadest sense. Teacher observations of student performances in gym, music, art, and so forth all constitute research. A staff's viewpoint of the educational achievement of its students constitutes research. Research is defined when assessment practices are used to further refine instructional techniques for the betterment of the individual students. The unit leader coordinates a constant review and analysis of each student that can lead to the maximum development of all students.

(b) The unit leader plans the development activities of the unit with appropriate personnel from the unit, building, central office, and other agencies.

The unit leader coordinates the development of a system of individually guided education within the unit, including a statement of objectives, the assessment of the capabilities of students, the instructional program and evaluation procedures.

The unit leader participates in preparing instructional materials, diagnostic procedures, and measurement instruments.

(c) Through visits, conferences, and reading the unit leader keeps abreast of innovations throughout the school system, the state, and the nation.

The unit leader stimulates as well as practices new instructional techniques within the unit and throughout the building.

(d) The unit leader assumes leadership in demonstrating new and innovative practices for visitors, and parents, by methods of briefing, simulation, and observation.

The unit leader's roles and responsibilities are many and varied. It is a most satisfying teaching position but demands many hours of involvement in the educational program.

Unit teacher. The main differences between the role of certified staff teachers in the unit and that of teachers in the traditional self-contained classroom regard planning with other members of the unit, working with many students in a multi-age setting, and performing at a more professional level. The higher level of professional activity is manifested in the way time is utilized, particularly in planning and shared decision making, in development and research activities, in preservice teacher education, and in several components of the instructional system such as formulating objectives for each student, assessing each student's characteristics, using new materials and equipment, and trying out new instructional procedures.

The unit teachers greatly enhance their professional skills, attitudes, and knowledge by the indication of their new roles and responsibilities. These are

(a) Teachers participate in the shared decision-making process related to the aspects of the instructional program. This shared decision-making process takes place at regularly scheduled unit meetings where each professional teacher can draw upon their talents and expertise to focus upon the true target of their responsibilities—the individual student.

(b) The teaming approach to the development and clarification of instructional objective is used. Opportunity for the teachers at the classroom level to make instructional decisions affecting the students each in their own individual way is the result of the organization.

(c) Teachers have the opportunity to combine the efforts of the team to assess and diagnose each student with the unit approach in which a number of disciplines all focus upon the individual from their respective areas. Only through this unified approach can sound educational decisions be made regarding the individualized instructional program for each student.

(d) Teachers may choose from a wide range of available materials and develop new materials from a team concept. Many individual teachers have excellent sources of teaching materials that, when placed in a "pool" to be shared by the team, take on new meaning.

(e) The team or unit approach opens up many avenues of instructional techniques. Where the teacher in a self-contained classroom had difficulty developing various grouping patterns for instructional purposes, in the multiunit school with the availability of a number of teachers, a larger group of students, the flexibility of several rooms, and the opportunity to unit plan, teachers can provide for large-group instruction, small-group instruction, paired instruction, and independent study. The unit approach also utilizes the time variable to the best advantage. One week a flexible modular schedule may be used followed by a traditional schedule the next week. Each team has great flexibility in using the time variable.

In keeping with the IGE philosophy of providing for the total development of each individual student, the unit teacher serves as an advisor to a certain number of students in his or her unit. In an effort to humanize and personalize the instructional program and to ensure that students and parents involved in the junior high school will not go unnoticed or unassisted, the advisor-advisee program was developed.

The responsibilities of an advisor are many and varied. A few basic challenges are listed below:

1. The advisor will get to know each student and family as quickly as possible. The opportunities to call parents, set up meetings with them, and discuss the educational program regarding their offspring are limitless. Regular contacts with parents are essential.
2. The advisor will maintain complete records on each advisee. All items concerning the student are important. Areas of discipline, school progress, involvement in activities, interest areas, and parent's name, address, and phone number are all important. A complete record of calls and conferences must be made.
3. The advisor will set up and maintain regular meeting times for his group. An ideal time is during the activity period. Certain days can be set aside for the advisor-advisee group meetings as well as individual conferences. The closeness of the teacher-student relationship is developed during this time.
4. The advisor will help to establish the educational program of his advisees. The utilization of "shared decision

making" with the student and parents as co-partners in the educational experience of the student is truly a great opportunity.

The above roles and responsibilities represent only a portion of new roles that teachers play in the multiunit middle/junior high school. The additional roles that can be created are limited only by the creativity of the team itself.

Guidance personnel. Guidance personnel in the multiunit middle/junior high school truly are a part of the team. No longer does the counselor work only with "problem" students, do administrative work, or plan programs for the college-bound students. The guidance counselor has responsibilities in three general areas, (1) parents, (2) teachers, and (3) students.

A relationship representing the school and the home must exist between the parents and the counselor. The counselor is attached to the unit or units while working within the local established counselor/student ratio. He may also serve as the communications link between the teacher and the home.

The counselor is the accumulator of information concerning each student. This information comes from parent conferences, the school nurse, the past cumulative records, conferences with other staff members, and other sources.

In a unit the counselor meets either on a regularly scheduled basis or an "on call" basis. The counselor is an integral part of the team approach. As the unit leader and teachers plan instructional strategies for the coming week with discussion centered around individual students, the counselor provides information regarding each student under discussion.

The counselor also has the responsibility of working with teachers in improving their skills in teacher-student relationships. Teachers must know and understand their strengths and weaknesses in teaching individual students. The counselor acts as the "catalyst" in matching the strengths of teachers with the needs and interests of students.

The counselor also works with individual teachers involved in the advisor-advisee program. Although many of the duties associated with the advisor's role appear to be guidance oriented, the counselor has the predominant guidance role. The advisor-advisee relationship between the teacher and student is not meant to replace the counselor-student-teacher relationship, but to be supplemental to the total guidance program. The counselor and principal are the "overseers" in the advisor-advisee program.

Counselors also work with units and individual teachers regarding the activity program in the multiunit middle/junior high school organizational framework. The counselor is instrumental in providing background information on student interests and needs. The counselor must play an active part in the activity program by regularly working with teachers and parents and by participating in various interest areas with groups of students.

A word of caution regarding the new counseling role in the multiunit school: the counselor must be a visible person to teachers, students, and parents. The counselor must not conduct his total responsibilities behind the closed doors of his office; this creates a sense of negativism, of not being a member of the team, of working only with problem students or of bad rapport with parents. Many of the duties of the counselor must and can take place in classrooms, cafeteria, and IMC, thus providing a sense of positive "openness."

The current literature indicates that counselors must expand their roles and responsibilities to help students deal with all experiences of life. Future counseling must help students become "self-aware" and build "self-worth." With this new concept, counselors can become involved in all aspects of a student's school life. Areas of conduct, attendance, skills, development, and physical and social development are all included for a positive guiding relationship between the counselor and the student.

The multiunit middle/junior high school organization allows the counselor to fulfill the broader roles and responsibilities of the profession for the betterment of the individual student.

Instructional materials center personnel. The instructional materials center (IMC) personnel are vital members of the team in the middle/junior high school. The IMC is a natural outgrowth of the organizational framework of the multiunit school. It is an extension of the classroom and encourages greater individualization. The IMC director is involved in various tasks at levels appropriate to the instructional program. The IMC has an impact on three levels: (1) IIC, (2) I & R unit, and (3) student level.

The IMC director is a member of the IIC. Through this shared decision-making body the expertise and talents of personnel in the instructional materials field can have an impact on the total instructional program of the building. Through the common exchange of ideas and requests, the IMC director can properly allocate existing resources as well as coordi-

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nate the purchases of additional instructional resources.

The IMC director is also included in the weekly I & R unit meetings, either on a regularly scheduled or "on call" basis. The director acts as a general resource person to the units, with responsibilities similar to those at the IIC level. Materials not commonly found in the classroom generally are used in the IMC. The director's responsibility is to provide maximum utilization of these resources in order for the entire student population to benefit from the IMC.

During the unit meetings the IMC director helps the team determine the criteria for selecting appropriate instructional materials, and evaluates and orders additional IMC materials to support the educational objectives.

The IMC personnel also perform functions at the student level. In this area the director assumes responsibilities for cataloging, processing, and instituting organizational procedures that will achieve effective dissemination of materials. The director is responsible for providing a creative climate where students can move freely about with a variety of instructional materials and tools readily accessible. These materials should be (1) appropriate to the maturity and educational level of the students who use them and (2) many and varied to meet individual abilities and interests.

In summary, the IMC director is an integral part of the instructional program. The director is a member of the teams (IIC and I & R unit), whose major function is to provide an educational climate to meet the individual needs and interests of the student body.

Teacher aides. A vital member of the instructional team in the multiunit middle/junior high school is the teacher aide. Basically there are two types of aides, instructional and clerical. Their roles and responsibilities differ in respect to the students, but also may overlap in respect to record keeping and other duties.

The instructional aide works very closely with the unit leader and unit staff. The aide may actually become involved in the instructional program doing various tasks such as supervising a small group of students from the unit in the IMC; tutoring various groups of students in a drill session; doing assessment testing of individuals and helping to administer large group testing; assisting in drama productions and projects; and handling audiovisual equipment. These are only representative, and many more responsibilities can be added depending on local school operations.

An important premise must be thoroughly understood by all staff members—the instructional aide *does not* teach students. An instructional aide follows the guidance and direction of the teachers in the unit. It is the teacher who diagnoses and prescribes the educational experiences of the students, and it is the instructional aide who helps implement the educational experiences.

The clerical aide is exactly what the name implies. The clerical aide performs functions not necessarily associated with teaching, but handles the small "administrative" chores of the classroom teacher such as collecting money, supervising lunch periods, taking and recording attendance, making instructional resources, typing and correcting tests, and so forth. The list is endless, and will vary according to each individual school.

The proper utilization of instructional and clerical aides is dependent upon the skills and training of the aides. Roles and responsibilities will vary according to these and other local conditions. In all, aides are a vital component of the team approach in the multiunit middle/junior high school educational setting.

Support personnel. School support personnel are generally classified as the auxillary services given to a school. These auxillary services vary according to local school needs. Some of the more common service positions are school nurse, school social worker, school psychologist, and learning disabilities teacher.

The school support personnel perform at three levels within a school building. These levels are (1) IIC, (2) I & R unit, and (3) student.

Support personnel can be either regular members of the IIC or can be "on call" to the committee. The policies and functions they perform are determined by the IIC. Their talents and expertise are utilized in the improvement of the total instructional program which is always striving toward better individualization for all students.

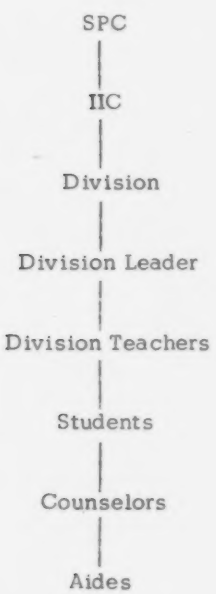
The school support personnel function as part of the team approach at the I & R unit level on a more concrete basis. Here the stress is toward individual students with specific emphasis on diagnosis, prescription, and treatment. The I & R unit relies on the school support personnel as part of a joint effort toward working with students in the instructional program. The support personnel work with individual students only when the students' problems become so serious that they are beyond the training and expertise of the teacher. A one-to-one relationship between the support personnel and the student is necessary under these circumstances.

Senior High School

It is the philosophy of individually guided education (IGE) that all operations at the senior high school level be directed toward individualized learning for the student. To ensure success, the five educational variables (teachers, students, time, space, and materials) are rearranged to create a more meaningful yet manageable environment. The two key variables, teachers and students, provide the basic organizational clusters for the senior high school. In this context the total organizational framework is designed around student interests and needs and teacher interests and talents relating to the following three major organizational units: (1) divisions, (2) the Instructional Improvement Committee (IIC), and the Systemwide Policy Committee (SPC).

The organizational structure of the senior high school is essentially a straight line hierarchy as shown in Figure 2.14. There are, however, horizontal relationships that exist (see Fig. 2.15), and these will be discussed later.

Figure 2.14



Divisions

The multiunit secondary school model retains the concept of clustering a group of teachers with a group of students with common interests and needs as their common denominator. Each of these clusters is called a division. Schools may have several divisions that cover broad career or curriculum areas and that include variable team clusters. Five units (divisions) have been designed as one alternative into the organizational framework of the senior high school to reflect all areas of career clusters. The five units are (1) environmental science, (2) applied technology, (3) management science, (4) community studies, and (5) communication arts.

The *environmental science division* deals with man and his relationship to the environment. General interest areas of agribusiness, natural resources, marine science, and environmental control encompass this division. Basic high school courses currently offered in many high schools fit neatly into this division, e.g., physics, chemistry, biology, animal science, agriculture, plant science, social studies, economics, math, English, international relations, and geography.

This division is designed to accommodate *all* students with interests and needs in this broad general area. All students are in an individualized program and can be expected to develop to their maximum capabilities. Students who are preparing for advanced technical training or college will satisfy all entrance requirements.

The *applied technology division* coordinates the talents and interests of teachers with the interests and needs of students to form a construction-related area. Typically offered high school courses within this division are woodworking, electricity, electronics, science, auto and power mechanics, math, English, graphic arts, and drafting.

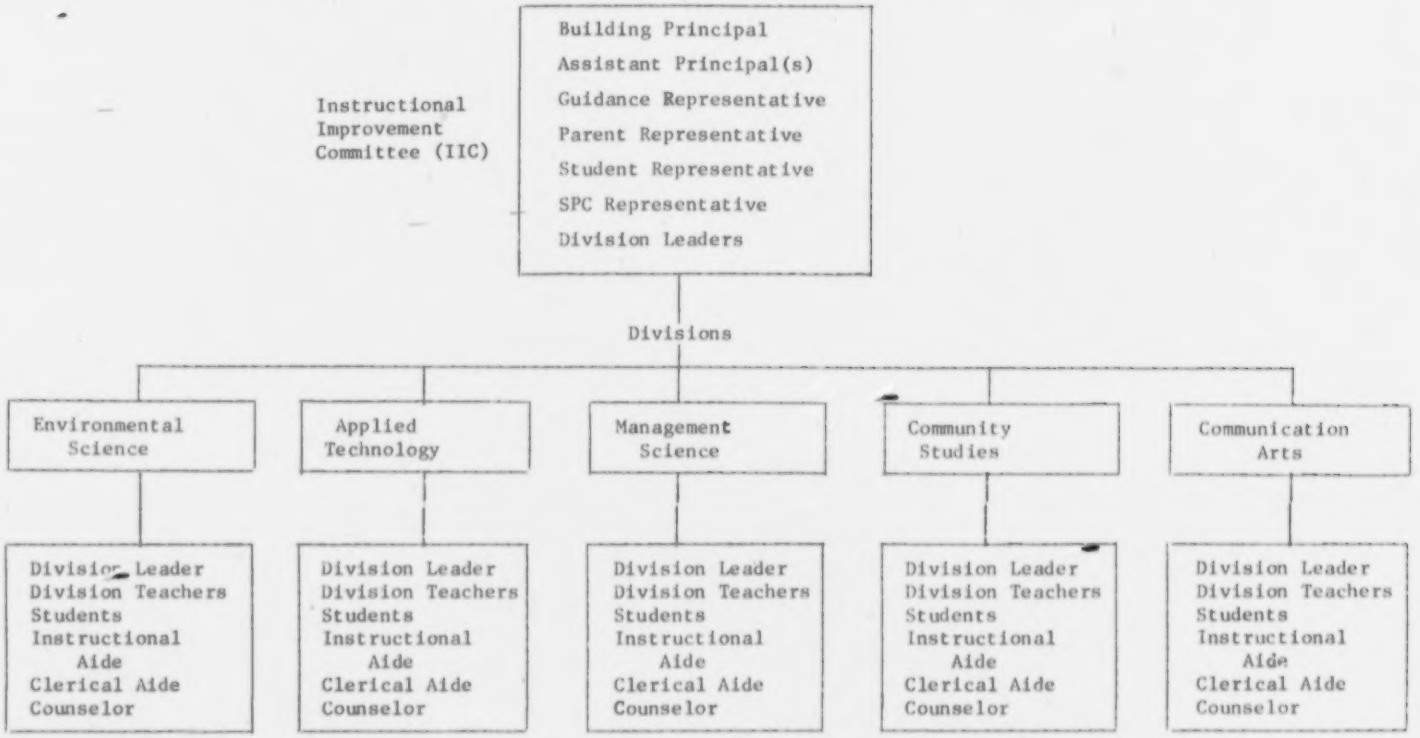
This division encompasses all interests ranging from trade occupations to various types of engineering professions. Students should be exposed to a full range of opportunities whether they plan to enter a work field immediately or to pursue a post-high school education.

The *management science division* includes the areas of business and office services along with manufacturing and transportation services. Management science skills may encompass the control and direction of goods and services. High school subjects commonly found in this division would be English, math, social studies, economics, typing, secretarial procedures, bookkeeping, marketing procedures, and advertising. Students enrolled in this division receive all related capstone benefits regardless of their post-high school plans.

The *community studies division* is concerned with public and private service to the community and related areas. This division includes the type of service utilized within a community, e.g., medicine, law, family services, citizenship, consumer education, psychology, sociology, and public service.

Figure 2.15

ORGANIZATIONAL FRAMEWORK OF AN IGE/MUS HIGH SCHOOL: ONE ALTERNATIVE



Community studies allows for great flexibility in meeting the interests and needs of its students. As a major thrust this division provides high school students with the experience of performing a service for others while learning.

One aspect of community studies is public service which can be divided into six basic areas: (1) senior citizens, (2) ecology service, (3) hospital service, (4) tutorial service, (5) voter service, and (6) mental health service. These basic areas are self-explanatory.

The *communication arts division* encompasses the area of communication in all forms to and with people. The ability to communicate with words, sounds, and objects provides the basic objectives of this division. High school courses commonly found in this division are English, social studies, literature, math, foreign language, art, sculpture, music, speech, drama, journalism, and radio/TV.

A synonym for this division may be called the "performing arts" area. This division is extremely comprehensive in nature but allows for the in-depth study needed for interested high school students. The opportunity to express creativeness in words, sounds, and objects is massive and students can be expected to develop to their potential utilizing the resources of the school and the community.

Instructional Improvement Committee (IIC)

With the existence of three, four, or five divisions in a high school there is a very important need to maintain communications among staff. This is apparent when the utilization of common facilities is necessary for maximum educational value. Instead of common facilities (gym, IMC, commons, cafeteria, and so forth) being rigidly scheduled at the beginning of the year and then remaining so scheduled, scheduling of these common facilities changes to a flexible weekly basis. Only through common effort, understanding, and a shared decision-making process can maximum utilization of common facilities be accomplished.

This kind of shared decision-making process is accomplished through the Instructional Improvement Committee (IIC). The IIC has four main functions:

1. The IIC states the educational objectives and outlines the educational program for the entire school.
2. It interprets and implements system-wide and state-wide policies that affect the educational program of the building.
3. It coordinates the activities of the divisions to achieve a sound education for each student.
4. The committee arranges for the use of facilities, time, and resources for maximum educational benefit to teachers and students.

Thus, the IIC deals primarily with planning and coordinating functions related to the instructional program.

The many support services found at the senior high school level usually make their major impact at the IIC level in the form of general services to the school. Specific services are provided at the division level where the services involve teachers and students. Support services personnel consist of the school nurse, school social worker, school psychologist, behavioral disability teacher, guidance counselor, and teachers of EMR, LD, and so forth. These specialized personnel may work with the IIC on either an ad hoc or a permanent basis in regard to the overall instructional program of the school, but also work with the divisions at the teacher-student level. All support personnel are a part of the instructional program aimed at the development of maximum potential of *each* student in the school.

Systemwide Policy Committee (SPC)

To facilitate the substantial change needed to move from a traditional comprehensive high school to a comprehensive multi-division high school, the SPC was created as a third body in the organization. This group is less involved in instructional decisions and more concerned with allocation of resources. The committee is chaired by the superintendent or his representative and includes consultants and other central office personnel, representatives from the IIC, division leader representatives, staff teacher representatives, student representatives, board of education representatives, parent representatives, and general community representatives. The SPC

1. Identifies the functions to be performed in each MUS high school in the district
2. Recruits personnel for each MUS high school in conjunction with the principal and provides for the necessary inservice training
3. Allocates the necessary resource materials
4. Disseminates relevant information within the district and community

The SPC is the policy-making body for the total MUS program in the school district. It coordinates the activities of each school with those of the total school district. The SPC is a necessary support force for the proper fulfillment of the instructional program in each MUS school.

Shared Decision Making

One of the key components of IGE/MUS-S is shared decision making. The process is an extremely complex one which requires an understanding of individual and group dynamics through which the shared decision-making process is accomplished. Such an understanding is mandatory for putting the IGE/MUS-S component of shared decision making into operation.

Research into the decision-making process is in its early stages. The decision-making process is basically an individually internalized intellectual activity. There are many facets that must be considered in understanding how problems are solved. As Brim, Glass, Lavin, and Goodman (1962) stated:

> First, there are variables pertaining to the characteristics of the individual (his attitudes, beliefs, abilities, motives) which customarily are referred to as the individual's personality. Second, there are variables pertaining to the external observable situations in which individuals may find themselves. . . . Finally, there are variables which describe the momentary state of the individual resulting from the interaction of a specific situation with the characteristics of the individual's personality [p. 46].

It is essential to provide some definitions of decision making to provide a base for common interpretation and agreement. Koontz and O'Donnell (1964) defined decision making as "the actual selection from among alternatives to a course of action" (p. 135). Culbertson, Jacobson, and Roller (1960) believed that decision making "is a primary source of control and definer of action" (p. 370).

Writers and researchers throughout the years have wrestled with definitions of decision making. Generally, a common thread links all definitions. This thread suggests that there are always alternatives to the solution of a situation or problem. The alternatives are sifted, and one is chosen to promote action in that particular situation.

Scholars of the process have attempted to organize the decision-making process into steps or sequences. Probably the best-known sequence of the process is attributed to Dewey (1910). He believed that problems are solved in the following steps or sequences: (1) perplexity or doubt, (2) identification of the problem, (3) research for facts, (4) form-relation of a possible solution, (5) solution testing and when necessary a reanalysis of the problem, and (6) the application of the correct solution (p. 17). In a study of the complexities of decision-making variables Wilson and Alexis (1964, pp. 180-195) stated that there are six elements common to all decisions: (1) the environment, (2) the decision maker, (3) the goals or objectives, (4) the alternative actions, (5) an order of alternatives, and (6) the choice or selection of one alternative or some combination of alternatives.

The literature shows that goals or objectives play a significant part in all decisions. Human beings must have goals, either recognized or latent, in order to move in a predetermined direction. People have various goals according to their interests. Goals are established for work, for recreational activities, for the family, for the church, and for social status. In many instances these goals may come into conflict with one another in the decision-making process. Thus, the selection of an alternative for the solution of a problem may be partially based on the acceptance of a goal that has no observable relationship to the problem at hand. Miller and Starr (1967) stated that "conflict between goals can occur in a number of ways: (1) conflicts between the individual's roles; (2) conflicts between group objectives; and (3) conflicts between the individual's role and the group objectives" (p. 47). Griffiths (1959) took a similar position when he stated, "In an important sense, all decisions are a matter of compromise. The alternative that is finally selected never permits a complete or perfect achievement of objectives, but is merely the best solution that is available under the circumstances" (p. 6).

Intertwined in the decision-making process is the variable of values. The term "value" may be defined as something intrinsically valuable or desirable to a particular individual at a particular point in time, and as such, values are an integral part of the decision-making process. Morrel (1960) stated:

> a . . . percentage of the decisions of an individual relates to his structure of values—these decisions determine his ultimate ends. Such value decisions are based upon the varying backgrounds and accumulated experience of the individuals concerned. Since each person

carries around a different conceptual structure or framework of ideas in his mind, decisions are measured by one's personal standards rather than by objective standards [p. 8].

Values help an individual maintain internal consistency. An individual strives toward internal balance by avoiding dissonance and by making decisions to maintain consonance. The term "dissonance" is equated with inconsistency and the term "consonance" is equated with consistency (Benson, 1970).

When dissonance occurs, a human organism will try to regain internal harmony and balance among his opinions, attitudes, knowledge, or values using the three following methods:

(1) By changing one or more of the elements involved in dissonant relations
(2) By adding new cognitive elements that are consonant with already existing cognition
(3) By decreasing the importance of the elements involved in the dissonant relations [Festinger, 1957, p. 264].

With this background into the complex world of decision making by individuals, it becomes apparent that the term "shared decision making" is equally complex in terms of practice.

Shared decision making can be defined as the participation of individuals and/or groups within specified parameters in decisions affecting the variables critical to their performance of defined responsibilities.

As it relates to IGE/MUS-S, shared decision making involves a number of levels: (1) student and student, (2) student and teacher, (3) teacher and teacher, (4) teacher and administrator, (5) administrator and administrator, (6) school and parents, (7) school and community, and (8) parents and community.

Student and Student

If we accept both the premise that education is learning for life and the premise that education takes place outside as well as within the school facility, then interaction between students is of the utmost importance in regard to the total educational development of the individual.

Shared decision making between students takes place in all aspects of their endeavors. It may manifest itself in the areas of social, educational, or religious environments. Shared decision making is generally a matter of compromise between two or more individuals. Students working together as a class, in small groups, in paired units, or within a total school population results in many shared decisions. Understanding the decision-making processes of the individual and the group results in shared decision making. The teacher (or leader) is responsible for instilling an understanding of these processes in all students so that the shared decision-making process can function on a student-to-student level.

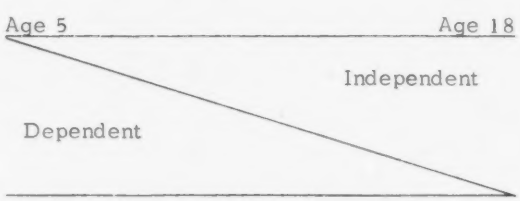
Student and Teacher

The practice of shared decision making between student and teacher is an acknowledged practice in the self-contained classroom. However, within the concept of IGE/MUS-S shared decisions take an expanded role. The IGE/MUS-S organizational framework, which clusters groups of teachers with similar interests and talents with groups of students with similar interests and needs, expands the utilization of shared decision-making practices to assist the total development of each student.

The number of shared decisions made between teacher and student is dependent upon the level of responsibility (maturity) of the student and the student's past experiences with the shared decision-making practice. The level of responsibility for each student is assessed using age, IQ, and grade as criteria. All variables involved in maturity have to be considered in determining the amount of shared decision making.

A rough rule of thumb that can be used in allowing more student input into the shared decision-making process is depicted in Figure 2.16.

Figure 2.16



At age five a student begins to provide input into the shared decision-making process regarding his educational experiences. However, the degree of responsibility of a five-

year-old child is relatively small. At age eighteen a student also provides input into the shared decision-making process regarding his educational choices, but the degree of responsibility should be large. One of the purposes of an educational system is to develop and nurture the ability to participate in shared decision making.

Teacher and Teacher

In the past teachers practiced the shared decision-making process to varying degrees. In IGE/MUS-S, however, the shared decision-making process between teachers takes on a totally new importance. Teachers within a division *must* relate to each other concerning the total educational experiences and development of each student in their division.

For the process of shared decision making to function it is necessary that each teacher understand the complexities of individual decision making as well as group dynamics within the division.

Teacher and Administrator

The organizational framework of IGE/MUS-S allows for decisions affecting the instructional program to be shared between the administrator and the division leaders and staff. The device for this is called the Instructional Improvement Committee (IIC). Major decisions affecting the instructional program were formerly vested in the administrator (principal). The principal may have utilized teacher, student, or parent input for helping in arriving at decisions, but at times this input was either ignored or never requested.

Shared decision making at the IIC level should maximize opportunities for each student to have the best in educational experiences during his association with the educational system.

Administrator and Administrator

This area of shared decision making may involve several levels and various situations. The Systemwide Policy Committee (SPC) is the prime example of shared decision making. Other levels may include meetings of central office staff, district high school principals, building principal and assistant principals, and so forth. The focus is always toward students, and decisions affecting them must be made in their interests.

School and Parents

It is apparent that in order for the school to fulfill its purpose and for the parents to accomplish their objectives, they must arrive cooperatively at decisions which affect the student. Proper communication and cooperation can result in a shared responsibility arrived at through the shared decision-making process.

School and Community

The community involves more than parents of children in school. It encompasses all people within the school attendance area including senior citizens, adults without children, and other interested nonparent groups such as service and fraternal organizations.

The concern here is for proper input from the community into decisions which affect the educational system and in turn the students' educational experiences. Areas of the instructional program which have a direct bearing on the community are co-op, work-study, and school service programs; capstone courses; and volunteers and aides.

If it is a basic premise of the district that educational development takes place outside as well as inside the school facility, then the community must provide the necessary input and in some instances shared decision making into the instructional program.

Parents and Community

The lines of communication must remain open between parents of school children and other members of the community. Parents are often involved at different levels of the instructional program, and this places a sense of responsibility on them to provide information concerning this instructional program to the community. The community is then responsible for determining the goals of education for the schools.

Parents convey the image of the school to the community. They are one of the more vital sources of information that a community has for determining the proper function of its schools.

Home-School Relations

It has long been recognized that the school alone cannot do the total job of educating the youth of today. Different writers have alternately blamed the school and the

home for what they feel is a lack of properly educated young people. The school has been accused of not being responsive enough to its students. The community has said that schools are at fault for not giving children the best education (while the community is neglecting its own responsibility for the educational process). One cannot entirely blame either the school or the community for the educational problems that have occurred. Each party has an effect on the educational process, and thus both are to blame for any educational failures.

The dual responsibility of home and school for the education of students is of central importance to the IGE/MUS-S system. Both home and school help determine what is to be learned, why students should learn, and how they are to learn. Yet often this dual responsibility has not been considered in discussions of educational reform. The school's responsibility is relatively obvious, but the effect of the home and community has not been fully considered in discussions of education.

Effect of Home and Community on Educational Process

The following points will be considered in assessing the effect of the home and community on the educational process and in determining how IGE/MUS-S will utilize this effect:

1. If the home environment does not encourage education, then the students from these homes will not do as well in school.
2. The home and the school may have different goals and thus the students are caught in the middle.
3. The home is of major importance in determining the student's emotional reactions, attitudes, perceptions, and values and thus directs the way in which the student will approach the school.
4. Childhood learning predisposes youth to good or poor mental health and thus to the way youth act and react in school.
5. A child's way of learning begins at home and is thus carried over to school.
6. Parents and the community often do not know what is happening at school.
7. Parents often feel that if they get a letter from the school, then their child has done something wrong.
8. Both the school and the community have built up stereotypes of the other and these stereotypes may have no basis in reality.
9. The school has failed to inform the community of what is going on in school (except when a student is a behavior or academic problem) and thus the community and home can do little to help the educational process.
10. Parents are often not aware of the psychological development of their children and thus may not be giving the proper support their children need.
11. An air of mystery hangs over the school and thus home and community may be antagonistic because they do not understand the school.
12. Our society is rapidly changing and the school of yesterday is not the school of today; thus home and community may be confused as to what the school is.

Why a Home-School Relations Organization?

Considering just the small sample of effects listed above, the need for active participation by the community in the educational process is obvious. Yet the community's participation needs to be structured and organized in order to be effective in providing the best possible education for students. This is why IGE/MUS-S feels the need for a home-school relations organization. The purpose of such an organization is to promote student learning by setting up a communications network between administrators, unit/division leaders, teachers, specialists, parents, students, and the community at large. It will also help to ensure that the community is aware of what the school is doing and vice versa so that the dual responsibility of the school with the home and community can be coordinated.

Basically this organization will have the following three functions:

1. Be an information organization in the sense that both the school and the community need to be informed of the practices and needs of each other.
2. Be an advisory organization. The school needs to be aware of the support of the community in providing the best education possible.
3. Be a resource organization which both the school and the community can draw upon.

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Responsibility for Starting the Organization

IGE/MUS-S feels that the school holds the initial responsibility for starting a home-school relations organization. When a school system adopts the IGE/MUS-S program, it accepts all seven components of the system, one of which is home-school relations. Since the community may not know of the IGE/MUS-S system, the school needs to inform them about IGE/MUS-S, and the home-school relations organization could be one way to do this. There already may be a parent-teacher association or some similar existing organization which could be transformed into the type of home-school relations organization needed by IGE/MUS-S.

Some points useful in the development of a home-school relations organization were suggested by Ringness (1969):

1. Considerable information on the mental health principle and how it relates to the work of the school is needed. Data can be gained from reading, discussion, lectures, workshops, inservice groups, consultants, and others.
2. There must be clear ideas of the needs for the schools involved. Studies must be made. This requirement is not for "research" so much as for identification and ranking of problems and clarification of their nature.
3. There must be ideas of what can reasonably be undertaken, resources available, and staff possibilities.
4. Machinery must be devised so that action can be taken.
5. Principles must be applied.
6. Evaluation of results must be made and modifications of the program introduced if necessary [pp. 440-441].

The community, through the home-school relations organization, can work with the Systemwide Policy Committee (SPC) and help the system direct its resources and energies. The organization can be a supporting force to be used by the SPC when making district policy decisions, and it can help remind the SPC that the students are the central factor in its decisions.

The home-school relations organization can also help direct educational practices at the school level by working with the Instructional Improvement Committee (IIC) and the division/unit personnel. Some possible functions of the organization with respect to an individual school were stated earlier. The organization will be most involved at the local school level since it can be a resource supplier and a source of paraprofessionals.

Research and Development

Continuing research and development to generate knowledge and to produce tested materials and procedures is an important component of IGE/MUS-S. Development-based research is needed to refine the seven IGE/MUS-S components, and research on learning and instruction will generate knowledge that in turn will lead to improved educational techniques and procedures. Each school, too, must engage in active research in order to design, implement, and evaluate its instructional program and organization.

Summary

The strength of IGE/MUS-S lies not in any one of the seven components, but rather in their interaction as a total system. It is a case of the whole being greater than the sum of its parts. It is equally as important to realize that IGE/MUS-S does not have the power to cure all the problems of education; it can play a major, but essentially bounded, role. In those areas for which IGE is suitable, it is anticipated that a number of desirable outcomes will accompany its implementation. These anticipated outcomes include:

1. Learner units composed of multi-age groupings of two or more grade levels in a multidiscipline area
2. A system of continuous progress for all students
3. An organization of teams of instructional specialists (The size of the team and number of disciplines represented may vary.)
4. A unit composed of 90-200 students depending on the objectives of the students
5. The appointment of division/unit leaders in each team
6. Cooperative planning by the unit of instructional strategies
7. The sharing of decision making as it affects the instructional program
8. Variable instructional grouping patterns within units
9. Individually guided education instructional approaches within units

10. Use of the Instructional Programing Model in the school
11. Use of criterion-referenced evaluation instruments in the school
12. An ongoing program of research and development in the school
13. A student's schedule allowing him maximum utilization of the educational resources of the community
14. An opportunity for each student to participate in the decision-making process regarding his educational goals. The amount of input into the decision-making process is dependent upon the responsibility level of the student
15. A home-school communications network regarding the total school objectives and pupil progress

Providing that proper implementation of IGE/MUS-S has taken place, certain benefits can be expected. These benefits can be categorized into three areas: (1) students, (2) teachers, and (3) parents and community. The following represent only a partial listing of the benefits derived from IGE/MUS-S:

Students

*1. Opportunity to pursue interest areas throughout their high school years
2. Learning becomes "learning for life"
*3. Association with other students with like interests and needs
*4. Flexibility to change as interest and need change
*5. Availability of cooperative interest and need experiences with the community
6. The relevancy of a combined curriculum
7. A block of time which can be scheduled to better utilize the educational resources
8. An advisor-advisee relationship with one teacher
9. A more fulfilling process of meeting the school and community goals of education
10. A more humane, personalized learning climate
*11. The utilization of the entire curriculum as a medium for integrating knowledge and attitudes about occupational choice including important social, economic, and personal factors that influence and are influenced by occupational choice
12. A shared decision-making process regarding their educational goals and experiences
13. The concept of continuous progress
*14. The flexibility of selecting courses from more comprehensive curriculum offerings
15. Assessment as an individual student

*Applies to senior high school only.

Teachers

*1. The selection of a division based on interest
*2. The common denominator of interest areas with students
3. An advisor-advisee relationship with small groups of students of similar interests
4. The availability of team planning to make decisions regarding time, space, students, and resources
*5. The common denominator of interest areas with teachers
6. A more humane, personalized learning climate
7. Opportunity to teach "learning for life"
8. A block of time which can facilitate progress toward the realization of the school and community goals of education for all students
9. A shared decision-making responsibility concerning the total educational experience of individual students
10. The utilization of school-community resources in total student development
11. The utilization of varying instructional techniques (large group, small group, independent study, and paired grouping)
*12. The responsibility of maintaining course content in depth and in relationship to the thrust of the division
13. A more positive parent interest and involvement in the educational process.
14. The opportunity to broaden curriculum offerings
15. Opportunities for professional growth
16. Ability to assess students as individuals and plan educational programs based on student's needs, abilities, and interests

*Applies to senior high school only.

Parents and Community

1. Realization of educational goals of the community
2. Shared decision making by parents, students, and teachers with respect to educational goals of the community
3. Shared decision making by parents, students, and teachers with respect to individual student goals and interests
4. Involvement in educational process outside school facility
5. Involvement, knowledge, and understanding of school-within-a-school facility
6. Fulfillment of community needs through student interest
7. Contribution to total learning climate
8. Support for continued progress and reevaluation of educational system
9. Close relationship with teachers, administrators, and students
10. Shared decision making about instructional programs as participant in the Instructional Improvement Committee
11. Shared decision making about policy decisions as a participant in the Systemwide Policy Committee

III
Strategy for Implementation

Operational Approach to the Project

Since the project is moderately staffed and funded, it has been and will remain imperative that the project rely heavily on the services of practitioners in the field for creative input and practical advice. The primary means for accomplishing this is a combination of paid professional workshops for development and refinement of concepts and procedures to be implemented in IGE/MUS-S. Participants in previous workshops have been identified through their contact with R & D Center personnel and by means of requests made to district and university leaders to provide people capable and experienced in innovative education. Finally, in keeping with a commitment to provide practitioners with an attractive alternative to traditional school organization, development of theory and structure is oriented primarily to solution of perceived problems.

Another outgrowth of the search for optimum ways to use the resources available to the project was a predilection toward liberal use of theoretical models. By use of this device design specifications are readily available to school districts and professionals who can easily generate incidental materials and manage adaptations of overall procedures which are beyond the capacity of the project to provide.

Once the basic designs have been set the matter of implementation will follow the model utilized by the R & D Center for dissemination and testing of all of its products. This is a sequence of piloting and small- and large-scale field testing. Prior to and coincidental with established implementation procedures the project will generate a series of print and nonprint materials to be used for training teachers and administrative staffs and which can be modified for informative purposes. These materials will be continuously altered and revised as experience proves necessary. When servicing of pilot operations becomes a full-time consideration, expansion of staff will occur.

Plans for Implementation

Briefly, the project hopes to move forward simultaneously on three fronts: (1) through the use of advisory forces and pilot operations, refine the design of the system which has been presented in this paper; (2) locate, install, and service a series of pilot programs to determine the feasibility of the system and to serve as a test bed for refinement and more widespread dissemination; (3) generate and subsequently refine in practice a series of staff-development materials for districts which elect to implement IGE/MUS-S. The remaining pages discuss current plans for achieving these three steps.

Veterans of IGE at the elementary level will recall that the prescribed program for implementation of Center products requires pilot testing followed by small- and large-scale field testing, respectively. In addition, a change model has been adopted which provides for a sequence of developmental phases: awareness, installation, maintenance, and institutionalization. All of these steps and concepts have been incorporated into MUS-S plans for implementation. Quite naturally, however, the interests of project personnel are at this time directed almost completely toward preparations for pilot operations.

Scope of Work

A specific goal for the generation and pilot testing of the secondary models has been developed to ensure the completion and implementation of the secondary models. The following list of activities provides the project staff with specific guidelines and objectives.

Activity 1: *Development of IGE/MUS-S Conceptual Framework*

1. Develop IGE/MUS-S conceptual models, 10/72-3/73 (Staff)
2. Present the IGE/MUS-S models to IGE/MUS-S Ad Hoc Task Force, 11/72 (Benson, White, Koritzinsky)
3. Present revised version of IGE/MUS-S models to Ad Hoc Task Force, 3/73 (Staff)
4. Prepare operational version of IGE/MUS-S models based upon feedback from Ad Hoc Task Force, 3/73-4/73 (Benson, White, Koritzinsky)
5. Refine IGE/MUS-S models based upon pilot center experience, 7/74 (Benson, White, Koritzinsky)
6. Develop needs and specifications paper on IGE/MUS-S, 3/73 (Staff)

Activity 2: *Staff Development and Related Materials*

1. Review and critique MUS-E staff development materials, 9/72 (Staff)
2. Prepare specifications for SDWM, 3/73 (Staff)
3. Develop pilot SDWM, including print and nonprint materials, 3/73-6/73 (Staff)
4. Submit pilot SDWM to date to Ad Hoc Task Force for evaluation and guidelines, 4/73 (Staff)
5. Utilize SDWM in pilot schools (P-UL), 6/73 (Staff)
6. Utilize SDWM with total staff of pilot schools, 8/73 (Staff)
7. Prepare working paper of IGE/MUS-S staff development strategies, 8/74 (Staff)

Activity 3: *IGE/MUS-S Awareness Conference & Model Development Orientation #2*

1. Develop plans for IGE/MUS-S awareness conference and model development orientation #2, 9/73 (Benson, White, Koritzinsky)
2. Complete plans for IGE/MUS-S awareness conference and model development orientation #2, 10/73 (Benson, White, Koritzinsky)
3. Invite participants to IGE/MUS-S awareness conference and model development orientation #2, 11/73 (Benson, White, Koritzinsky)
4. Complete final arrangements for IGE/MUS-S awareness conference and model development orientation #2, 11/73 (Koritzinsky, White)
5. Convene IGE/MUS-S awareness conference and model development orientation #2, 1/74 (Staff)

Activity 4: *Ad Hoc Task Force and Advisory Council*

1. Identify the roles and responsibilities of IGE/MUS-S Ad Hoc Task Force, 10/72 (Staff)
2. Select and initiate invitations to Ad Hoc Task Force, 10/72 (White, Koritzinsky)
3. Convene IGE/MUS-S Ad Hoc Task Force, 11/72 (White, Koritzinsky)
4. Initiate invitations to Ad Hoc Task Force committee meeting #2, 3/73 (White, Koritzinsky, Staff)
5. Convene Ad Hoc Task Force #2 meeting, 4/73
6. Invite Ad Hoc Task Force members to IGE/MUS-S awareness conference, 11/73 (Koritzinsky)
7. Identify roles and responsibilities of IGE/MUS-S advisory council, 12/72 (Benson, White, Koritzinsky)
8. Select and initiate invitations to IGE/MUS-S advisory council members, 2/73 (Benson, Staff)
9. Develop plans for advisory council meeting, 3/73 (White, Koritzinsky, Staff)
10. Convene advisory council meeting, 5/20/73 (Staff)

Activity 5: *Pilot Centers*

1. Further develop criteria for IGE/MUS-S pilot centers, 11/72-2/73 (Benson, Staff)
2. Develop pilot agreement and finance structure for pilot centers, 12/72-2/73 (Benson, Woolpert, Harritt)
3. Identify and select two to four IGE/MUS-S pilot centers, 3/73-4/73 (Benson, White, Koritzinsky)
4. Invite potential pilot center superintendents, board of education members, community laymen, principals, and prospective unit leaders to MUS-S orientation conference, 4/73 (White, Koritzinsky)
5. Convene pilot center orientation conference, 5/73 (Staff)
6. Principal-Unit Leader workshop, 6/73 (Staff)
7. Curriculum development summer workshop for pilot centers, 6/73-7/73
8. Pre-opening school workshop for pilot centers, 8/73 (Staff)

9. Monitor IGE/MUS-S pilot center operations, 9/73-6/74 (Staff)
10. Prepare preliminary report on IGE/MUS-S pilot center operations, MUS-S model feasibility, and staff development materials, 12/73 (Staff)
11. Prepare final report on IGE/MUS-S pilot center operations, MUS-S model feasibility, and staff development materials, 8/74 (Benson, Hubbard)

Activity 6: *Curriculum Development Summer Workshop*

1. Develop financial allocations for curriculum summer workshop for pilot center principals and prospective unit leaders, 2/73 (Staff)
2. Formulate performance objectives for summer workshop, 4/73 (Staff)
3. Design an evaluation format to measure outcomes of curriculum summer workshop, 4/73 (Benson, Hubbard)
4. Determine scope and sequence of the curriculum summer workshop, 5/73 (Staff)
5. Explain purpose and format of summer workshop to personnel at pilot center orientation conference, 5/73 (Staff)
6. Convene and direct summer workshop, 6/73-7/73 (Staff)
7. Prepare an evaluation report of the curriculum summer workshop, 8/73 (Benson, Hubbard)

Activity 7: *IGE/MUS-S Newsletter*

1. Compile a mailing list of interested personnel to receive the MUS-S Newsletter, 1/73 (Koritzinsky)
2. Develop a format of articles to be included in the newsletter, 1/73 (Benson)
3. Write and/or request articles to be used in the newsletter, 1/73 (Staff)
4. Initiate mailing of newsletter, 1/73 (Koritzinsky)
5. Follow up on additions, subtractions, and corrections of the mailing, 2/73-12/73 (Koritzinsky)
6. Develop format of future newsletters, 2/73-12/73 (Koritzinsky)
7. Coordinate the publication of future newsletters, 2/73-12/73 (Koritzinsky)

Activity 8: *Evaluation of IGE/MUS-S*

1. Develop evaluation of "principal-unit leader" staff development workshops, 5/73 (Hubbard, Benson)
2. Prepare evaluation plan for IGE/MUS-S pilot centers, 7/73 (Hubbard, Benson)
3. Prepare an evaluation report on staff development workshops, 8/73 (Hubbard)
4. Conduct an evaluation of "principal-unit leader" staff development workshops and staff development materials, 9/73-12/73 (Hubbard)
5. Conduct the evaluation of IGE/MUS-S pilot centers, 9/73-6/74 (Benson, White, Koritzinsky, Hubbard)
6. Prepare the evaluation report of IGE/MUS-S pilot centers, 8/74 (Benson, White, Hubbard, Koritzinsky)

Activity 9: *Staff Planning for IGE/MUS-S*

1. Conduct periodic staff reviews of component status, accomplishments, and projected activities, 10/72-8/74 (Benson)
2. Prepare FY74 Program Plan, 8/73 (Benson)

Advisory Committees

In an attempt to involve teachers, students, administrators, and community members in the initial and continuous development of the IGE/MUS-S model, the project has organized several advisory groups to serve as consultant organizations to the MUS-S project staff. While serving various functions, each group contributes to the progress and success of the entire project.

Ad Hoc Task Force

Membership: This committee is composed of secondary school principals and superintendents, University of Wisconsin School of Education personnel, and Wisconsin Department of Public Instruction representatives.

Functions: The primary function of this committee is to help with the conceptualization of the IGE/MUS-secondary models. In this capacity the task force serves as a "think tank" for the theoretical development of the IGE/MUS-secondary school.

Ad Hoc Teacher/Principal Task Force

Membership: This committee is composed of secondary principals and teachers, each representing individual middle/junior and senior high schools.

Functions: This group serves as a "reaction agent" to the theoretical development of the secondary models and helps to determine whether the concepts developed are practical, efficient, and workable in a secondary setting. In addition, this committee reviews specifications for staff development materials and pilot center criteria in terms of their own expertise and experience.

Ad Hoc Student Task Force

Membership: This committee is composed of two student representatives from each high school in the Madison area, including the parochial and free schools.

Functions: This student group provides the project with an excellent opportunity to learn about the current trends, concerns, interests, and problems that face high school students today. In addition to orienting the project about high schools today, the committee reacts to the development of the secondary models and provides feedback and reactions about their role in the IGE/MUS-secondary setting.

Advisory Council

Membership: This council is composed of representatives from the Wisconsin Department of Public Instruction and the University of Wisconsin-Madison canpus.

Functions: This council assists in the assessment of the secondary models and the staff development materials and acts as resource personnel in specific areas of expertise.

National Evaluation Committee

Membership: This conmittee is composed of scholars and practitioners in the field of education and representatives from the University of Wisconsin-Madison School of Education and R & D Center personnel.

Functions: This group reviews the progress and projections of each Center program including the IGE/MUS-secondary project, considers the project problems which require attention, and makes suggestions for improvement.

School Advisory Council

Membership: This council is composed of members from multiunit schools and other educational agencies dealing with multiunit schools.

Functions: The council receives information about Center products and field test opportunities and exchanges information of mutual interest with other multiunit personnel.

Wisconsin Department of Public Instruction Advisory Committee

Membership: This committee is composed of representatives from the Wisconsin Department of Public Instruction, R & D Center representatives, and IGE/MUS-secondary staff members.

Functions: This committee reviews the development of the secondary models and materials and determines the joint relationship the two agencies might have in implementing the secondary school designs in the state of Wisconsin.

Teacher Education Network

Membership: This network is composed of representatives from schools of education who are working in conjunction with the R & D Center in training IGE/MUS-secondary teachers.

Functions: The network representatives serve their own geographical area by (1) training their own university students to become IGE/MUS-S teachers, (2) serving as consultants to the local IGE/MUS-S schools in the area, and (3) conducting the inservice workshops for local IGE/MUS-S school staffs. In addition, the network members work closely with the R & D Center MUS-S staff in coordinating the staff development program and reviewing the project materials.

Ad Hoc Committees

Membership: These committees are composed of teachers, central office staff of school districts, university personnel, education agency members, consultants, teachers, parents, students, and community members interested in the development of the MUS-S school. These persons are categorized in the MUS-S newsletter mailing list.

Functions: The committee members serve when needed as readers or task force members dealing with any or all of the IGE/MUS-S component areas in Individualized Curricula, Facilitative Environments, Home-School Relations, Scheduling, Measurement and Evaluation, Continuous Progress, Instructional Programing Model, Program Implementation, Organization of the I & R Unit, Research and Development, Shared Decision Making, and Student Input.

GPO 894-450-4

Pilot Centers

The pilot program for the IGE/MUS-secondary project will begin in September, 1973, and continue through June, 1975. During this time, both the middle/junior high school model and senior high school model will be tested, and the inservice materials and services will be evaluated. The following agreement outlines the services expected of both pilot schools and the Research and Development Center.

MEMORANDUM OF AGREEMENT

BETWEEN

THE WISCONSIN RESEARCH AND DEVELOPMENT CENTER FOR COGNITIVE LEARNING

AND

(PILOT SCHOOL)

(Name of District)

The Wisconsin Research and Development Center for Cognitive Learning (Center) and _____(District) agree to cooperate during the 1973-74 school year in the implementation of an Individually Guided Education/Multiunit School-Secondary program. This program will consist of the model development, materials, and strategies relating to IGE/MUS-S. The pilot test will be at _____.

A. The Center will provide at no cost to the District:

1. Plan, staff, and operate a five-day IGE/MUS-S orientation workshop for local school administrators, central office personnel, and principals and unit leaders of the pilot school.
2. Plan and operate a curriculum workshop for secondary pilot schools during a three-week summer session (following the one-week IGE/MUS-S orientation workshop). The inclusive dates are June 11-July 3, 1973.
3. Provide financial support to the principals and unit leaders for the four-week workshop. The financial support is equivalent to the District's summer curriculum employment rate per person.
4. Prepare and provide to the pilot schools a set of prototypic IGE/MUS-S staff development workshop agendas to assist the pilot school personnel in planning pre-opening school workshops.
5. Provide prototypic audiovisual materials and single-copy handbook(s) required for implementation of IGE/MUS-S for use in the pre-opening school workshops and other staff development workshops. These materials are for loan purposes only.
6. Provide two days of consultant help to each school at their pre-opening school workshop.
7. Provide on-site visits to each school as needed to assist the principals and their staffs. (A maximum of four days per semester.)
8. Provide assistance through telephone conferences as needed.
9. Establish an IGE/MUS-S newsletter to facilitate an exchange of information among participating schools and interested secondary practitioners and personnel (optional).
10. Conduct "Interim Evaluation Workshops" for principals, unit leaders,

teachers, students, and community representatives of the pilot school. These are to be held on school inservice days throughout the school year.

11. Design procedures and instruments for securing baseline data to determine the progress of IGE/MUS-S pilot schools.

12. Maintain a working relationship between the Center and the pilot school for a minimum of _____ years or less as Center funds permit or at the mutual agreement of both parties.

B. The District agrees to:

1. Provide the name(s) of schools implementing IGE/MUS-S.

2. Provide for principals and key personnel to attend a five-day IGE/MUS-S orientation workshop.

3. Provide for principals and key personnel to attend the three-week curriculum workshop following the orientation session.

4. Plan and conduct a ___-day pre-opening school workshop for all staff.

5. Conduct inservice assessment workshops throughout the school year. There shall be _____ Interim Evaluation workshops per school year.

6. Cooperate in planning and facilitating the evaluation process with the R & D Center.

C. The term of this agreement shall be from the time it is fully executed until June 30, 1974. However, the Center reserves the right to gather follow-through data until June 30, 1975.

Accepted by:

_____
Dr. William Bush, Deputy Director
Wisconsin Research and Development
Center for Cognitive Learning

_____
Date

Agreed to:

_____
(Signed)

_____
(Title)

_____
(District)

_____
(Date)

Field Test Schedule

The field-test schedule over the next four years (1973-1977) is projected below, but is subject to change with each year.

Year	Type of Field Test	Number of Schools Old	Number of Schools New	Type of New School
September, 1973	Pilot		4	(4) Junior/Middle
September, 1974	Pilot	4	12	(8) Junior/Middle (4) Senior High
September, 1975	Small Scale	16	20	(15) Junior/Middle (5) Senior High
September, 1976	Small Scale	36	30	(15) Junior/Middle (15) Senior High
September, 1977	Large Scale	66	50-100	

The project is in the process of selecting several pilot schools for September, 1973. The following statements were used by the pilot schools to determine when their school was ready for IGE/MUS-S:

1. The school has a high degree of openness, trust, and adoptiveness.
2. The school has personnel who are generally younger and have less professional experience.
3. The personnel perceive few obstacles to becoming more innovative.
4. The staff is generally satisfied with existing working conditions.
5. The staff is generally *not* satisfied with the problem-solving adequacy of professional meetings.
6. The staff is generally satisfied with the time, however, devoted to problem solving in professional meetings.
7. The staff perceives themselves (individually *and* as a group) as an important source(s) of innovation.
8. The staff can communicate with others in the system regarding their own innovations or the innovations of others.
9. The administrator perceives himself as supporting innovation.

Timetable for Production of Staff Development Materials

Present plans for implementation of IGE/MUS-S in an existing school situation call for use of printed materials similar to and based on the contents of this paper. These will in turn be used to produce lecture presentations as well as nonprint materials. The combinations of these types of materials in an organized workshop environment will constitute the heart of preservice awareness and skill-development training for professionals.

As the conceptual development of the MUS-S model progresses and more and more schools begin to be interested in becoming pilot schools, staff development materials need to be refined and produced to orient and train each interested school and community. With this in mind, the MUS-S project has projected the following master plan for all audiovisual materials to be developed within the four-year period 1973-1977.

The progression to be followed in conjunction with each set of inservice materials is (1) to develop slides with accompanying scripts, (2) to refine slides and scripts and produce filmstrips, and (3) to create a 16mm motion picture when appropriate.

Nonprint Materials

Type of A/V Material	Subject	Year Started	Year Completed[a]
Filmstrips	Instructional Programing Model Continuous Progress	1974	1974
Filmstrips	Organization of MUS-Junior High School/ Middle	1973	1973
Filmstrips	Organization of MUS-Senior High School	1974	1975
Filmstrips	Roles and Responsibilities for Junior High School/Middle Personnel	1973	1973
Filmstrips	Roles and Responsibilities of Senior High School Personnel	1974	1975
Filmstrips	Learning Climate	1974	1975
Filmstrips	Home-School Relations	1974	1975
Filmstrips	Day in Life of MUS-S Senior High Student	1975	1976
Filmstrips	Learning Problems	1975	1976
Filmstrips	Day in Life of MUS-S Teacher	1975	1976

[a]It is anticipated that these materials will be revised approximately two years after development.

Type of A/V Material	Subject	Year Started	Year Completed[a]
Filmstrips	Measurement and Evaluation	1975	1976
Filmstrips	Research and Development	1975	1976
Filmstrips	Overview of MUS-S	1973	1973
16mm Motion Picture	Overview of MUS-S	1975	1976
Transparencies	An assortment of transparencies to meet specific needs and purposes	1973	1977

Printed Materials

Type of Material	Year Started	Year Completed[a]
Working Draft - Overview of MUS-S	1973	1975
Working Draft - IPM, Continuous Progress	1973	1975
Working Draft - Learning Climate	1973	1975
Working Draft - Organization of MUS-Junior/Middle High School	1973	1975
Working Draft - Organization of MUS-S Senior High School	1973	1975
Working Draft - Roles and Responsibilities of Senior High School Personnel	973	1975
Working Draft - Roles and Responsibilities of Junior High School Personnel	1973	1975
Working Draft - Shared Decision Making	1973	1975
Working Draft - Home-School Relations	1973	1975
Working Draft - Management and Evaluation	1973	1975
Working Draft - Research and Development	1973	1975
Needs and Specifications Paper	1973	1973
Handbook (to include material on each MUS-S component)	1973	1975
Brochure Overview	1974	1975
Inservice Manual and Simulation Guide	1973	1975
MUS-S Newsletter	1973	Continuous
Pilot School Newsletters	1973	Continuous
Performance Objectives - Implementation Guide	1974	Continuous
Other materials relating to scheduling, supervisor, etc.		

[a]It is anticipated that these materials will be revised approximately two years after development.

Future Research and Development Activities

As the secondary project continues to grow and evolve into a permanent program at the R & D Center, several activities associated with research and development activities should be considered as future adjuncts to the secondary models. In this regard three major parallel efforts are needed to provide breadth and substance to the secondary project:

1. Efforts are needed to develop and provide curricular packages on the secondary level to be utilized in IGE/MUS-secondary schools. Programs such as *Developing Mathematical Processes* and *Wisconsin Design for Reading Skill Development* could expand to include the secondary level. Additional curriculum areas dealing with science, environment, human relations, music, law, and medicine might be conceived as new courses to be introduced into the secondary setting.

2. Certain portions of the IGE/MUS-secondary project rely upon anticipated outcomes from other projects in the R & D Center. It is reasonable to hope that closely related projects such as home-school relations, music, art and physical education within IGE, IGM, and the peer tutoring project could be incorporated at the secondary level with only minor adjustments.

3. Teacher education institutions are needed to develop new training programs for IGE/MUS-secondary teachers throughout the nation. These schools could work closely with the R & D Center in training new teachers for new roles and retraining experienced secondary teachers for their changed responsibilities. In this way new curricula, products, ideas, and procedures can be funneled into the secondary schools.

Research and development is a continuous process, and new ideas, additions, and adaptations can only add to the success and freshness of the IGE/MUS-secondary schools.

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GPO 804-450-3

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TABLE 24 Graph showing growth gains in Reading Comprehension and Spelling sub-scores of experimental classes compared with the expected normative growth gain, both based on identical pre-test levels.

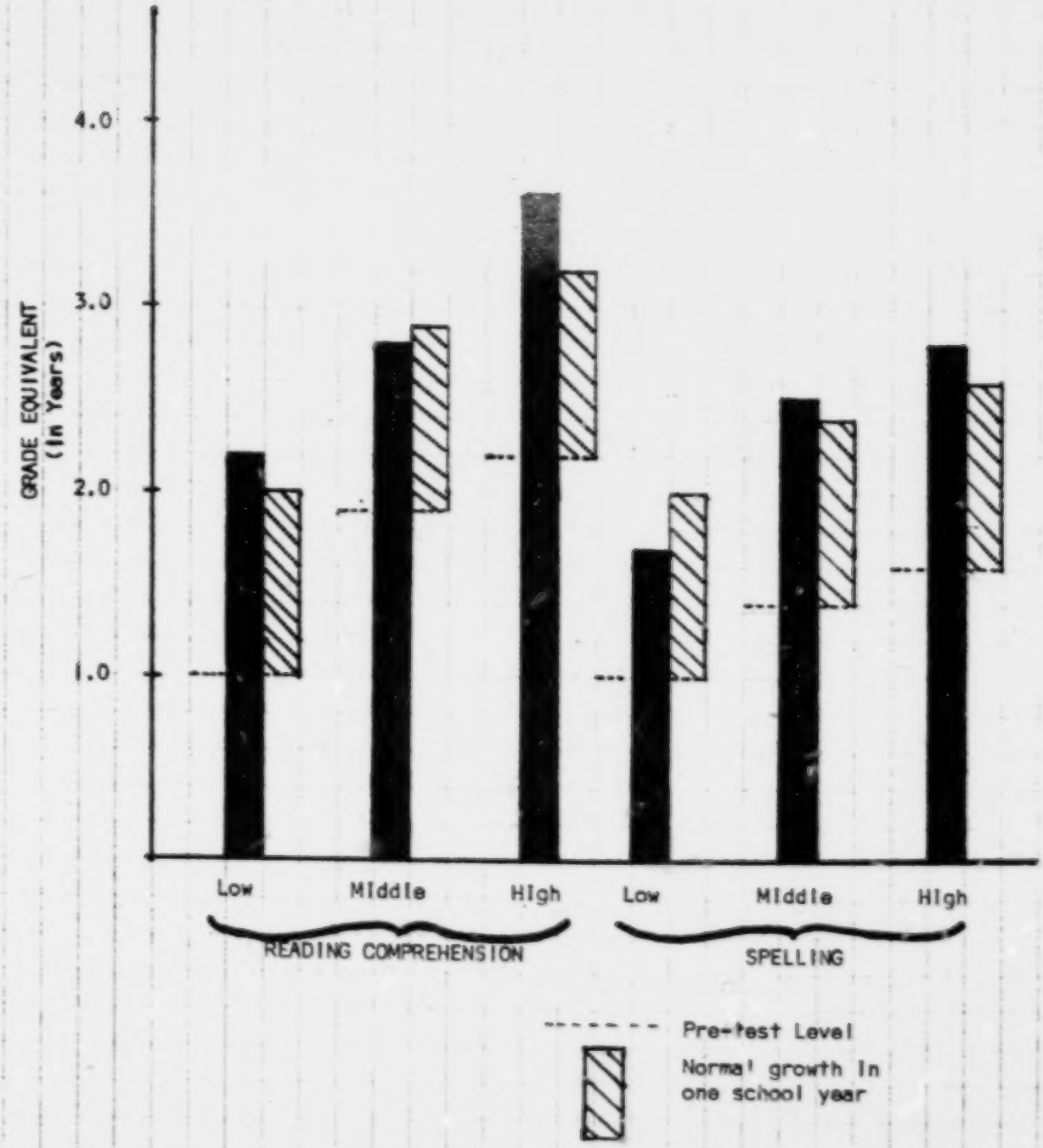

TABLE 25 Graph showing growth gains in combined test scores of experimental classes compared with the expected normative growth gain, both based on identical pre-test levels.

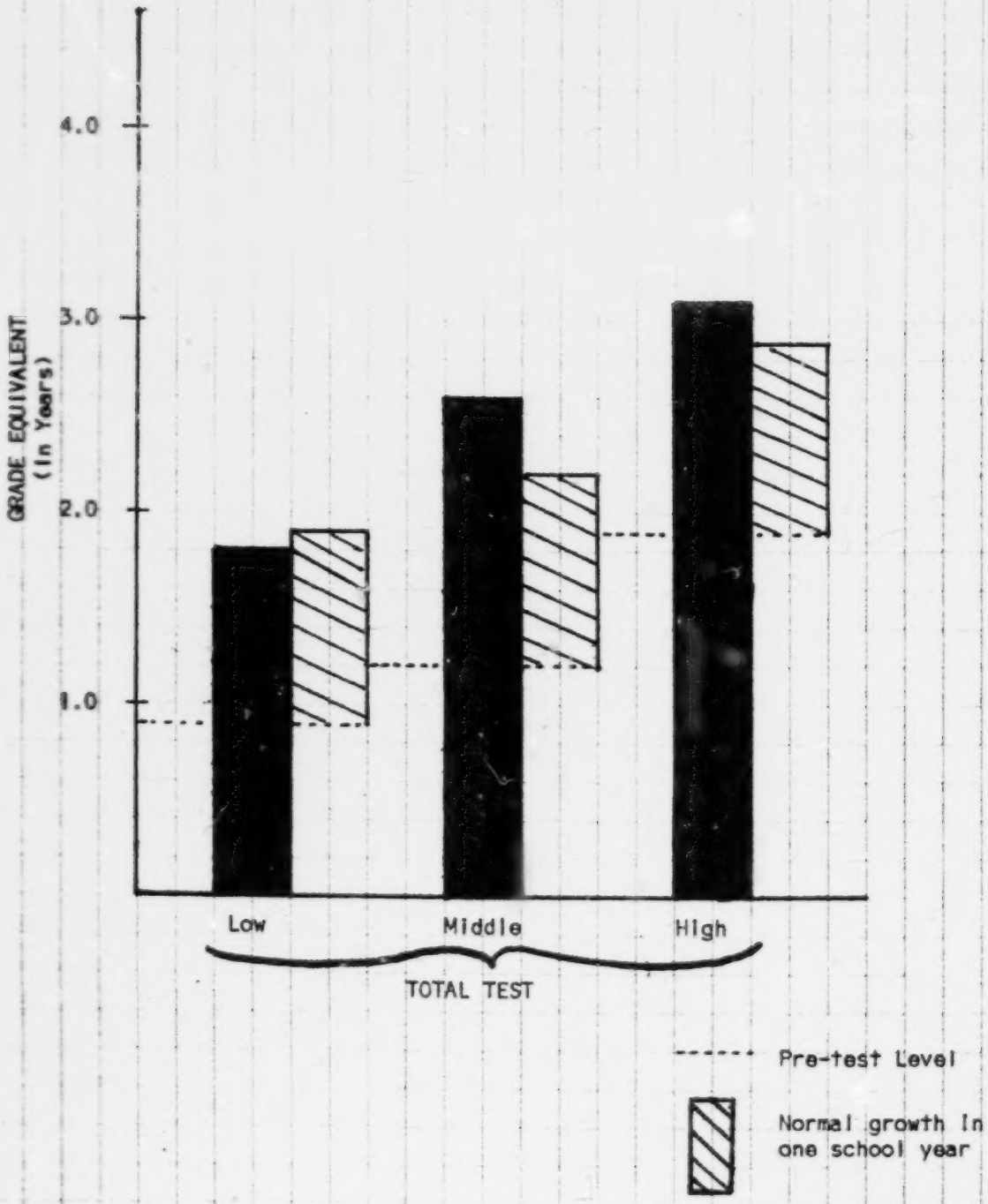

TABLE 26 Grade equivalents of scores and growth gains in four areas tested with the Peabody Individual Achievement Test, along with total grade equivalents (which includes additional areas of growth not separately treated in the table), for three mental age groups in the experimental classes, based on Pre-test and Post-test results.

M.A. Group	Mathematics		Reading Recognition		Reading Comprehension		Spelling		Total Test	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
High n=13	2.0	3.1	1.8	3.8	2.2	3.6	1.6	2.8	1.9	3.1
Gain	1.1		2.0		1.4		1.2		1.2	
Mid n=13	1.3	2.4	1.4	3.1	1.9	2.8	1.4	2.5	1.2	2.6
Gain	1.1		1.7		0.9		1.1		1.4	
Low n=14	0.9	1.9	1.0	2.0	1.0	2.2	1.0	1.7	0.9	1.8
Gain	1.0		1.0		1.2		0.7		0.9	

part of the gain to the reorganizational plan and the volunteer help, indicating an overall success of the program in terms of pupil gain.

An analysis of the pupil gains based on grade equivalents is equally impressive. As noted, in all but four of the twelve cases studied gains in excess of 1.0 years' growth was documented, with two of the remainder being 1.0 years, and the other two being .9 and .7 years, one for each of two mental age groups. Some of the growth gains, particularly in reading recognition and reading comprehension are outstanding. The greatest gains in these two areas were made by pupils in the highest mental age group, a finding which suggests that the volunteer help enabled this group to proceed with new vocabulary at a higher rate than expected. The author also anticipates that these pupils were most inclined to seek additional help when needed, rather than to wait for the teachers and volunteers to identify their needs. The greatest overall growth gain, however, was made by the middle group, an outcome which repeats the finding in the previous volunteer study in the same school. Again, the teachers' own daily observations predicted this outcome; the teachers stated that the volunteer program enabled students in the middle of the group, who ordinarily are overlooked, to receive a fair share of adult attention. No doubt the reorganizational plan, which demanded a constant monitoring of pupil progress, also contributed to the increased attention to the middle group.

This program has demonstrated that a division of a school can plan and initiate a reorganizational change and can also maintain and administer a volunteer program, and can combine these two activities to produce demonstrated pupil gains over both a control group and the normative gains for the grade level concerned. A program of this kind makes two contributions that are of

concern to teachers: greater opportunities to work with other teachers, and demonstrated improvements in pupil growth. For these reasons a study of this kind if widely disseminated should improve both teacher satisfaction and pupil performance in many schools.

The fact that the teachers in this program were able to bring about these two related innovations with a minimum of outside administrative or consultative help encourages us to recommend the program to other schools. However, teachers are not likely to bring about this kind of double-headed change without a measure of support and encouragement from both their principal and outside consultants. Educational policy within a system must support this kind of program if there is to be any hope that teachers will expend the time and energy required to implement it. Evaluation practices within the school system must focus on direct evidence of student growth if teachers are to be expected to implement programs of this type. Finally, the idea of capitalizing on volunteer assistance in a school community must receive continuous approval and support from educational leaders if teachers are to continue to explore the ways in which such assistance can be utilized to bring about improved programs.

In conclusion, this report establishes that the three relatively small and limited programs in this project have brought about improvements in school practice. However, the preparation and dissemination of this report alone will do relatively little to change general school practice. The Niagara Centre will continue to disseminate the results of this project, in cooperation with the Ministry and with local school officials. But if the implications of this and similar projects are to produce real benefits in schools throughout the

province the author believes that the Ministry must continue to encourage both school boards and its own consultants to study, evaluate and encourage projects which demonstrate practical benefits in schools.

APPENDIX

1. General Model

2. Some Suggested Tasks for Volunteer Parents

3. Some Special Ideas

4. Sample Recruitment Letter

5. Recruitment Questionnaire

6. Objectives, Advantages and Potential Outcomes of Parent Volunteer Programs

7. General Bibliography

8. Selected and Annotated Bibliography

9. Taxonomy: Classroom Observation Schedule

10. Manual for Categorizing Functions

11. Volunteer Talent Bureau Questionnaire

12. Ministry of Education - Bill 128 Ammendment - Schools Administration Act

13. Teachers' Federation Board of Governor's Approval of Parent Volunteers.

14. Halton County Board of Education - Student Volunteer Anecdotal Interview Form.

15. Halton County Board of Education - Teacher Anecdotal Interview Form: Re Volunteers

16. Volunteer Assistance in Schools: Help Or Hindrance? March, 1973.

17. Parent Involvement at a Small Neighbourhood School, September, 1973.

VOLUNTEER PARENTAL ASSISTANCE PROJECT

H. G. Hedges

Niagara Centre, The Ontario Institute for Studies in Education

AN OPERATIONAL MODEL

The operational model for developing and implementing a program of volunteer parental assistance in elementary schools is presented as a comprehensive plan which can be applied or modified to meet the conditions and needs of any elementary school that wishes to formulate a systematic volunteer program. The model has been implemented successfully in a number of schools with minor modifications.

Because any plan reflects certain objectives, the major goals of the present model should be identified. They are the enhancing of pupil achievement as an outcome of improved parental attitudes; improved home-school communication; significant additional help in the classroom; and the improvement of parents' "teaching" skills.

It will be noted that the phases, and steps and sub-steps of the model are in chronological order. Also mentioned are proposed materials at points where they apply. The initials S, P, T, and V refer to the groups or persons who bear the main responsibility for initiating and/or implementing the step, namely: Staff, i.e. principal and teachers (S); Principal (P); Teachers (T); and Volunteers (V).

OUTLINE OF THE MODEL

PREPARATION PHASE

1. Analysis of readiness (P)

2. Identification of the major needs of the school (S)

3. Identification of alternative solutions, including volunteer assistance (S)

4. Discussion of potential of volunteer program
   - - study information concerning existing practises (S)
   - - add books, manuals to professional library (see bibliography in appendix) (S)
   - - visit established programs (optional) (S)
   - - gather information concerning objectives (see objectives list in appendix) (S)

5. Decision to proceed with plan
   - - reach general commitment (S)
   - - identify participating staff members (S)

6. Agreement on objectives of program
   - - set up an order of priority of major objectives (S)

7. Identification of guidelines for long-range evaluation of program (S)

8. Preparation of list of initial tasks for volunteers (see initial task lists in appendix) (S)

RECRUITMENT PHASE

1. General information meeting with parents (optional) (S)
   - - involve existing parent organization (optional) (S)

2. Decisions on recruitment policies
   - - test policies against objectives (S)
   - - decide on general types or pools of volunteer service (regular, on-call, talent bureau) (S)

3. Preparation of recruitment letter with attached questionnaire (see sample letter and questionnaire in appendix) (P)

4. Organization of files of volunteers in each pool (P)

5. Evaluation of recruitment procedures
   - - publish list of volunteers to staff (P)
   - - assess success of procedure (S)
   - - plan, if necessary, to enlarge initial pool by alternate recruiting procedure, e.g., telephone, interview, or home visit (P)

INDUCTION PHASE

1. Initial meeting with volunteers
   - - explain objectives, advantages of plan (S)
   - - outline general procedures (P)
   - - answer major concerns of parents (S)
   - - discuss policies concerning assignment, responsibility, confidentiality, attendance procedures, etc. (P)
2. Assignment (or selection) of volunteers for each teacher or team (S)
3. Preparation of pupils for volunteer participation
   - - establish role and responsibility of volunteers (T)
   - - clarify discipline and procedures (T)
4. Preliminary visit(s) of volunteers to assigned areas (T,V.)
   - - discuss program, organization, supplies, etc. (T)
   - - meet and discuss initial tasks (T)
   - - resolve mutual concerns (T.V)
5. Initial volunteer service
   - - supervise volunteer tasks (T)
   - - establish procedures for openness of communication (T.V.)
   - - observe volunteer's activities (T.V.)
   - - provide help, or add assignments (T)
   - - provide training for tasks where necessary (S)
6. Information to authorities and public concerning initial phase of program (P)

MAINTENANCE PHASE

1. Subsequent regular participation by scheduled volunteers (V)
2. Procedures for "promoting" volunteers to more demanding tasks
   - - assess ability and reliability of volunteer and needs of the classroom
   - - determine and reflect interests of volunteer (T)
   - - maintain open communication (T. V)
3. Planning of informal training sessions as required to carry out specific roles (remedial, audio-visual, library procedures, etc.) (S)

3. Planning of informal training sessions as required to carry out specific roles (remedial, audio-visual, library procedures, etc.) (S)

4. Procedures for dealing with major difficulties

   - - maintain frank discussion of concerns and revise tasks as required (T)

   - - re-assign certain volunteers after consultation with staff (P)

   - - recruit from on-call corps to fill in for emergency absenteeism (P,T)

5. Procedures for involving "on call" pool (a) as replacements; (b) for special periodic needs (P)

6. Procedures for classifying resources of "talent bureau" and making information available to staff (P)

   - - plan general procedures for contact with resource volunteers (S)

   - - consider use of a volunteer for contacts (S)

7. Attention to staff requests for additional regular assistance

   - - conduct second "wave" of recruitment (P)
   - - explore possibility of volunteers as recruiters (P)
   - - assess possible transfer from other pools to regular pool (P)

EVALUATION PHASE

1. Development of evaluation procedures

   - - reaffirm priority of objectives (S)

   - - analyse effectiveness of daily evaluation and communication (S)

   - - identify main criticisms and weaknesses (S)

2. Meeting of principal (or staff) and volunteers after initial implementation

   - - establish a purpose and suitable interval after initial meeting (P)

   - - explore informally expressed attitudes and outcomes from parents' point of view (S,V)

   - - discuss criticisms, suggestions, and questions from volunteers (S,V)

3. Assessment of outcomes of above meetings, and modification of procedures as merited (S)

4. Formal evaluation in keeping with priority of objectives(6 - 10 months)
   - - assess attitudes of parents, teachers, pupils (S)
   - - assess effectiveness of volunteer service on extension of help to teachers (S)
   - - measure changes in teacher activity, i.e., time spent in various functions (see taxonomy, observation schedule, and manual) (T)
   - - measure changes in amount of time spent by adults with individual pupils (T)
   - - measure changes in amount of time pupils spend in major activities e.g., oral reading (T)
   - - assess effects of program on pupil performance (S)

5. Evaluation of the model

EXTENSION PHASE

1. Revision of model in light of evaluation (P)

2. Analysis of need for special forms of coordination of program
   - - assess additional administrative load (P)
   - - consider relationship to existing parent groups (S)
   - - consider use of one or more volunteers as coordinators (S)
   - - assign specific coordination roles to staff (S)

3. Addition of subsequent groups of volunteers
   - - assess need for additional help (S)
   - - assess use made of on-call and "talent bureau" pools (S)
   - - record other major changes (S)

4. Procedures for transferring certain learning activities to homes (optional)
   - - organize group training sessions (S)
   - - prepare or provide parents' manual (S)
   - - hold problem sessions (S)
   - - involve parents in evaluation of their work (S)

5. Extension of model to meet broader or more specific needs
   - - assess potential for special education, individualized instruction, supervision to permit staff time for curriculum development, etc. (S)

6. Policies and procedures concerning visitors (teachers and others) wishing to observe the program. (S)

7. Development of basic organizational structure needed to maintain program into new school year without "re-starting" the model (S)

8. Consideration of formal recognition of volunteers' service

9. Preparation of year-end report to board of education, press, parents and the community (S)

   -- consider value of having an oral report made to board by a committee (principal, teacher, volunteer parent) (S)

   -- invite press to observe and describe program (P)

   -- document major aspects of program for school records, to include samples of forms, materials, and letters used during the introductory year (P)

VOLUNTEER PARENTS' ASSISTANCE PROJECT

H. G. HEDGES

NIAGARA CENTRE, THE ONTARIO INSTITUTE FOR STUDIES IN EDUCATION

Some Suggested Tasks for Volunteer Parents

Note: This list is not complete. We would appreciate your contributions to the list. The tasks listed are not equally applicable to all grade levels. Many of these tasks would not be initial tasks for the volunteer, but rather would be ones that volunteers could be assigned as they demonstrate ability and reliability.

Clerical

Collecting lunch and milk money
Requisitioning supplies
Keeping attendance records
Filing reports
Writing for free materials
Maintaining pupils' cumulative records
Entering marks in record books
Averaging marks
Entering marks on report cards
Keeping records of books pupils have read
Keeping inventory of equipment and supplies
Preparing seating plans
Preparing library cards
Typing, duplicating stencils, etc.
Typing children's stories
Typing, duplicating class newspaper
Typing, duplicating school open letter to parents
Duplicating scripts for plays, etc.
Maintaining a file of representative work of each pupil
Filing resource materials for each unit
Setting up parent-teacher interviews

Classroom Maintenance and Administration

Supervising seatwork
Supervising work areas
Mixing paints, etc.
Assisting with art aprons, drop cloths, etc.
Arranging instructional materials for lessons
Distributing, collecting, washing, storing equipment
Supervising clean-up time
Assisting with coats, overshoes, etc.
Keeping bulletin boards neat and current
Maintaining general housekeeping of room
Assisting with blackboard care
Writing assignments on blackboard
Preparing kindergarten refreshments
Arranging interesting study areas, such as reading area, science corner, etc.

General Non-Instructional

Assembling related supplementary books
Selecting films, filmstrips for lessons
Assembling, selecting pictures for lessons
Proofreading class newspaper, etc.
Collecting test papers, projects, homework, etc.
Assembling resource collections, indexing and storing, e.g., artifacts, minerals, leaf prints, maps, etc.
Organizing a master picture file
Organizing a 35 mm filmslide file
Organizing filmstrips into an integrated collection, catalogue and card file

Obtaining specific materials for science, social studies lessons

General supervision of classroom at specific times

Supervising indoor games (breaks, rainy days, etc.)

Checking library books in and out

Helping pupils select library books

Making arrangements for special speakers

Supervising instructional games (e.g. math games)

Displaying pupil work in various ways

Performing routine health tasks-measuring and recording height, weight, routine eye chart

Administering routine first-aid

Attending sick or injured pupil

Telephoning re sick pupil; taking child home when necessary

Accompanying injured child to doctor, home or hospital

Telephoning re absentees

Telephoning, if necessary, to verify notes re pupil leaving early, etc.

Supervise club meetings

Assisting or supervising special pupil committees (constructing, rehearsing, experimenting, etc.)

Helping pupils settle quarrels, disputes

Helping in organization, rehearsal, etc. of programs, assemblies, etc.

Setting up special exhibits in classroom or school

Supervise individual study carrels

Monitoring study hall

Caring for pre-school children during teacher-parent conferences, etc.

Helping supervise field trips

Assisting with special 'errands'

Supervising tests.

Audio-Visual Assistance

Ordering, rewinding, returning films etc.

Reproducing sound tapes

Setting up and removing AV equipment

Operating projectors

Organizing, instructing pupils as AV operators

Preparing overhead projectuals

Reviewing films filmstrips

Preparing brief introductions as background for viewing

Maintaining AV equipment (oiling, cleaning lens and gates, checking lamps, cords, etc. on regular schedule, such as once per month). Perhaps one qualified father would do this.

See also suggestions re master picture file, 35 mm slide file, and integrated filmstrip file and catalogue

Prepare catalogue of resource materials in school and special resources (persons and materials) in the community.

Instructional

Preparing objective tests, eg. spelling lists, marking tests.

Preparing pupils' profiles

Checking homework

Checking record books using teacher criteria

Observing, describing specific behaviours

Preparing instructional materials--flash cards for mathematics and reading, cutouts, sewing cards, alphabet cards, drill card sets, transparencies, models, etc.

Collecting, organizing, arranging displays to be used in lessons.

Teaching a group to play an instructional game (e.g. math game)

Preparing special learning material to meet individual needs or differences, e.g. special study guides, sample programs, taping, reading or math material for less or more advanced pupils, etc.

Teaching or re-teaching specific skills or concepts to special groups

Tutoring individual pupils

Helping individuals with work missed because of absence, etc.

Reviewing content, skill of previous lessons

Repeating parts of lessons for slower learners

Assisting pupils with specific learning tasks and recording in book or file for individual

Assisting with routine spelling, punctuation on request as pupils write stories or compositions

Listening to pupils read orally; record difficulties

Instruct pupils in proper and safe use of tools and equipment

Teach etiquette, good manners, etc. to small groups

Listen to pupils read their own stories

Prepare special demonstrations in art, science, etc.

Provide musical accompaniment

Tell stories to groups or class

Assist in group discussions

Help pupils discover and select research and reference materials

Dictate spelling, number drill work, etc.

Supervise groups in laboratory work

Write assignements, etc. on blackboard

Drill individuals or groups with word, phrase, phonetic mathematics flash cards, identification cards, etc.

Prepare and present lesson or unit on an enrichment or special interest topic.

January 28, 1972.

VOLUNTEER PARENTS' ASSISTANCE PROJECT

H. G. HEDGES

NIAGARA CENTRE, THE ONTARIO INSTITUTE FOR STUDIES IN EDUCATION

SOME SPECIAL IDEAS

Note: Most of these ideas will not apply equally well in all situations. Also many of them do not apply to the initial stages of volunteer assistance, but may be both practical and useful later on as volunteers demonstrate ability and reliability. These ideas tend to be rather general in nature. For more specific ideas refer to my supplementary list of classroom tasks.

1. No teacher should be expected to involve parent volunteers until he/she wants their help and is able to identify various tasks or roles that volunteers can perform.

2. It is advisable to begin with one volunteer, who is prepared to work one-quarter or one-half day per week on a regular basis. With experience, volunteers may be added for other parts of the week, and/or more than one volunteer may be engaged for specific periods.

3. Before the volunteer is brought into the program he/she should meet with the principal, and if possible, with the teacher, at which time general school policies should be considered, the aims of the volunteer program should be discussed, the interests and abilities of the volunteer should be identified, and the fact should be established that because the principal and teacher are responsible for the program the volunteer will work in keeping with school policy and under the guidance and direction of the staff.

4. All parties concerned should recognize that misunderstandings and problems can usually be avoided if an open climate for communication is established and maintained.

5. All parties must realize that volunteer assistance programs inevitably result in some degree of sharing of privileged or confidential information about pupils, the teachers, and the school. To avoid problems, emphasize that with respect to such information the assistant must maintain a professional attitude, and that in fact his/her increasing involvement in the program will be influenced by the reliability shown.

6. Most volunteers will be motivated by intrinsic rewards, mainly the satisfaction derived from knowing one is making a worthwhile contribution. The volunteer, then must experience success in doing a worthwhile amount of significant work. Consider then, the following: (a) making sure there is enough for the volunteer to do, preferably with slightly more work organized than can be accomplished in the time available; (b) arranging some reference by the teacher to the importance of the volunteer's work to the class; (c) providing for "feedback" by the teacher, and where appropriate, by the pupils to enable the volunteer to evaluate his/her contribution; (d) the identification and gradual "promotion" to more complex, demanding or responsible tasks as the volunteer becomes able to handle them; do not assign tasks that are too difficult.

7. Periodically it may be useful to recognize volunteer aid in other ways; reference at H & S or P T A meetings; article in newsletter or newspaper; a social event; an annual report to the Board of Education; etc.

8. Consider the possibility of encouraging volunteers to recruit others into the program as needed.

9. Consider values of having a special work area in the school where the volunteers can work at special tasks.

10. Decide on the staff-volunteer relationships, e.g. coffee breaks: staff room, etc.

11. Establish a clear policy for occasions when a volunteer is unable to be present.

12. When a volunteer assists more than one classroom, or several members of a teaching team, decide in advance how his/her assistance is to be allocated.

13. In addition to specific classroom tasks, volunteers might assist in meeting some general needs that may exist in a school, as follows:

a) Maintaining an individual file for each pupil. Representative samples of the pupil's work, periodic tests, art, compositions, reading lists, etc., should be dated and filed weekly in the file. This file provides data for progress reports, diagnosis, and parent-teacher interviews and enables the teacher to "keep track" of the individual's work and progress. Place work daily in a box for filing weekly by a volunteer.

b) In some schools that use volunteers to assist with individual work, each pupil has an individual progress record book. In it the teacher writes brief notes or assignments for the volunteer, relating to particular needs of the pupil. The volunteer records the success or progress of the pupil after the assignment has been carried out, and returns it to the teacher. This record book is also valuable in parent-teacher interviews.

c) Librarians and library resource teachers make good use of volunteers in cataloguing, carding, shelving, and repairing books, thus freeing them for more time in helping teachers and pupils with reference work, planning, and organization of resources for teachers' units.

d) One approach to the continuous need for good pictures to use in lessons is the school or library picture collection. Volunteers can assume most of the responsibility for preparing and maintaining a master picture file. Pupils are good picture collectors. Make decisions about criteria for selecting pictures, standard mounting, alphabetical or subject filing, and borrowing and returning procedures.

e) If you have a fairly large filmstrip collection, there probably is a need to integrate it by subjects, and to develop a card catalogue of titles and cross-references. A capable volunteer could organize and maintain this file with staff direction. A similar service might be organized in duplicating, housing, filing, cataloguing sound tapes. Refer to Department's taping service for ideas.

f) A wealth of 35 mm colour slides is avilable (as originals or duplicates) from distributors, teachers, parents, local photographers, etc. The drawback in using them is usually a lack of organization and filing. Now available are inexpensive 8" x 11" plastic sheets with 20 pockets for slides. These can be filed and stored in regular 8" x 11" binders, and can be indexed by subject, country or other classification. A volunteer could organize and maintain this service, uhder supervision of a librarian or teacher.

g) Very fine lithographed reproductions of great art (Old Masters, Canadian, Modern, etc.) are available at modest cost (e.g. $5.00 - $10.00) from various distributors. A school, or several cooperating schools on a rotation basis, may wish to employ this method of developing art appreciation. Donations may be made by individuals or by H & S or P T A (an ideal investment by such groups). One or more fathers could be recruited to

construct or select an inexpensive standard frame, and to mount pictures. A volunteer could manage or assist with general organization and maintenance.

A related project is the preparation of a number of standard inexpensive frames and matts for displaying in school halls, typical art work of pupils. The use of a standard matt and temporary mounting procedure enables frequent changes to be made. A volunteer might assist with or manage this project.

h) Some schools maintain a current master-pupil file and a permanent pupil history file. The former uses a card for each pupil, mounted alphabetically on a Rolodex wheel for quick reference. The card may show address, parent's name, siblings in school, a small photo from a class picture, etc. When a pupil leaves the school by graduation, transfer, etc., appropriate data is recorded and the card is transferred to a history file which provides a permanent record of pupils having attended the school.

i) Instead of relying on your memory to recall the tasks you wish a volunteer to perform, try posting a large envelope into which you can drop brief notes as various tasks occur to you. Then you and the volunteer can together establish priorities among the tasks assigned, and the additional tasks will ensure that the time of the volunteer will be fully used.

j) In several schools in Cincinnati every pupil transferring into a school is identified for a time with a volunteer who assists him in adjusting to the school and the program.

k) In Minneapolis several schools have one or more volunteers who help identify, catalogue, and make arrangements for special resources (artifacts, models, materials, products) and special people (artists, actors, musicians, skilled craftsmen, hobbyists, collectors, naturalists, scientists, historians, pioneers, ethnic representatives, etc.) to come to the school or to arrange

or accommodate field visits. Frequently ethnic representatives can contribute information, pictures, records, artifacts, clothing, folk-lore, songs, dances, etc.

l) Many teachers have every pupil keep a list of all books he has read. With volunteer assistance this list could be maintained from year to year, either in the library or in the pupil's individual file.

m) Many schools in Ohio recruit volunteers to assist with a Great Books program, in which the volunteer meets groups of pupils after school to introduce and discuss good books.

n) A popular activity of volunteers at upper elementary and high school levels is in reading pupils' compositions, thereby enabling teachers to have pupils do more such writing. The volunteer usually does not formally evaluate the writing, nor does he/she focus on minor errors; instead, the volunteer selects, encourages and gives further guidance to one of the best features of the written work.

14. Remember that a successful volunteer program does more than help teachers and pupils directly with their work. It improves parent-teacher communication, has a positive influence on parents' attitudes, enables parents to learn more about instructional procedures, and improves community support for the philosophy, program and resources of the school.

January 28, 1972.

Volunteer Parent's Assistance Project

H. G. Hedges - Niagara Centre, O.I.S.E.

Sample Recruitment Letter

Dear Parent:

The main purpose of this letter is to inform you of our plans to (establish, expand) (a, the) parent volunteer program at _____ school. As a staff we have made a study of existing programs for volunteer assistance in other schools and believe that such a plan would have many advantages in this school. Therefore, as a staff we have decided to explore the possibilities of a parental volunteer program in the school. We hope to establish a group of regular volunteers helping in the school on a half-day per week basis along with a body of general or part-time volunteers to assist at special events and to help out when a regular volunteer is unable to be present. We wish also to identify the special talents, hobbies, or interests of parents that might be shared to broaden and enrich our curriculum.

The volunteer parents in the classroom will not work solely in housekeeping or supportive roles, but will actually be assisting the teacher with some of the middle-level instructional tasks, such as story-telling, listening to pupils read, marking work, providing drill and review experiences, and other related duties.

The responsibility for the educational program in the classroom will remain that of the principal and the teacher, but with proper planning and organization the teacher will be able to spend more and more of his or her time on planning programs, providing individual opportunities for the youngsters to move along at their

pace, organizing the classroom for the most efficient learning to take place with the help of volunteers, and diagnosing pupils' learning difficulties, so that suitable remedial instruction may be arranged for the learner.

With the above introduction to our plans for volunteer parental involvement this year, I would like to invite you to consider whether you would be willing, as a parent, to participate actively in our volunteer program. We hope to involve some fathers as well as mothers.

Past experience has shown that some parents are reluctant to volunteer because they believe that a high level of skills is required in a volunteer. We believe that enthusiastic volunteers should be accepted at the level of contribution that they are able to make and then provide them with opportunities and training to assist in the school and to improve their own skills in various areas. The assistance of parent volunteers in other schools in the province has led to improved understanding of school programs, a sharing of information about the learners, better attention to the needs of individual pupils, valuable assistance in meeting some of the objectives of the school program, and a better general level of communication between the school and the community that it serves.

Parent volunteers in other schools tell us that they like the opportunity to share in the school program, to watch the progress of individual pupils and to feel the satisfaction that comes from helping youngsters learn.

We hope that you will give serious consideration to serving as a volunteer in our school. One or more meetings with the volunteers

will be held before parents are assigned to teachers or classrooms. Would you kindly complete and return the attached questionnaire by _____ .

Sincerely,

Principal.

QUESTIONNAIRE RE: PARENT VOLUNTEERS

1. Would you be willing to serve as a volunteer in _____ school on a regular or part-time basis?

   Yes No

   Comments:

2. Regular Assistance

   (a) Would you be prepared to volunteer on a regular basis for approximately one-half day per week? _____

   (b) On what half-days would you be available as a regular volunteer?

   First choice _____

   Alternates _____

   _____

   _____

   List any special experiences, talents or training that you believe might enable us to make best use of your volunteer assistance. Example, group leadership; filing; typing; music or art ability; dramatic or athletic competence; librarian or teacher, etc.

3. Part-time Volunteers

   If you are not able to assist on a regular basis, would you be willing to serve "on call" when you are free to help, provided that advance notice is given?

   Yes No

   Comments:

NOTE: 1. You may volunteer as both a regular and part-time volunteer if time is available.

2. A meeting with volunteers will be arranged as soon as the lists are complete.

4. Other comments, or other contributions you would volunteer.

5. Questions or concerns that you would like us to consider.

Name: Address:

Phone No:

Children at _____
(name of school)

_____ Grade _____

_____ Grade _____

_____ Grade _____

_____ Grade _____

_____ Grade _____

VOLUNTEER PARENTS' ASSISTANCE PROJECT

H. G. HEDGES

NIAGARA CENTRE, THE ONTARIO INSTITUTE FOR STUDIES IN EDUCATION

OBJECTIVES, ADVANTAGES AND POTENTIAL OUTCOMES OF PARENT VOLUNTEER PROGRAMS

January 20, 1972.

VOLUNTEER PARENTS' ASSISTANCE PROJECT

H. G. Hedges

NIAGARA CENTRE, THE ONTARIO INSTITUTE FOR STUDIES IN EDUCATION

OBJECTIVES, ADVANTAGES, AND POTENTIAL OUTCOMES OF PARENT VOLUNTEER PROGRAMS

In response to numerous requests for statements of objectives or advantages of volunteer programs, we have prepared this statement as a result of our study of the topic and our observations and experiences in Ontario. Because our activities have been mainly with parental volunteers, we propose in this document to confine our discussion to the objectives, advantages and potential outcomes of volunteer programs which involve parents. This is not to suggest either that other volunteers are less capable than parents, or that many of the advantages and objectives would not apply to these other volunteers. It is simply that our experience enables us to speak with conviction only about parental volunteer progrmas at this time. No doubt the reader from his own thinking on the subject and his own experience will be able to add to the list.

The particular order and weight that one gives to objectives of any program have an effect on the plans and operation of that program. For this reason, we have included at the top of our list of objectives those two or three which we believe are most important in developing such a program, and which are prominent in the models we have been developing and implementing.

1. Parents' Attitudes

The reader is invited to study the findings in the National Survey reported in the Plowden Report, which shows that parental attitudes account for

more of the variation in pupil achievement than do either conditions of the school or characteristics of the home. The apparent importance of positive parental attitudes on pupil performance gives us cause to consider the ways of improving, altering, or enhancing parents' attitudes. Volunteer programs in schools appear to be one of the most effective means of influencing parents' attitudes toward the school.

2. Mutual Exchange of Important Information

Parents and teachers both have concern and responsibility for the development of pupils, and both have important information about the pupil. By improving communication between parents and teachers there exists the possibility that this important information will be more openly shared by both parties, with the potential effect of enhancing the pupil's learning experiences both at school and at home. A program in which parents learn to work comfortably in the school provides opportunities for more open and frank exchange of important information about learners.

3. Real Help in the School

Most principals and teachers state this as the prime objective of volunteer programs, and from the point of view of the professionals in the school this is a perfectly reasonable position. The apparent size of potential volunteer manpower pools in most school communities would make this objective seem a realistic one. Some of the special kinds of school service that volunteer helpers can provide are indicated in the following section.

(a) General Classroom Service

In numerous classrooms parents participate a half-day a week on

a regular basis assisting the teacher with tasks performed under her direction. While initially most of the tasks would be regarded as supportive and supervisory in nature, the evidence is clear that volunteers also are able to perform many tasks at the lower instructional levels, as well as many tasks representative of most of the major functions generally performed by teachers. Our project has published lists of some of the dozens of specific tasks that volunteers commonly perform in classrooms.

(b) General School Help

In the early stages of the development of volunteer programs the main kinds of assistance were with general school needs such as typing and filing, assistance with library supervision, etc. These needs and opportunities continue to be met by volunteers in many schools.

(c) Special Talents

Among the volunteers are many who have special resources or special talents based on professional or other experiences. Many of these special talents can be shared with pupils either within the basic program of the school or through various kinds of optional programs.

(d) Individualizing Instruction

There exists a real possibility that the effective use of volunteers may enable schools to meet better their plans for matching programs to the needs, interests and abilities of individual learners. Observations indicate that youngsters get more individual assistance in volunteer programs than in the same classroom prior to the introduction of such programs.

(e) Special Education

Some of the most rewarding programs of volunteer work, both to the volunteer and to the school, are those in which volunteers assist individuals who have special learning problems. A greater attention to the selection of volunteers for such programs may be necessary than is necessary for typical classroom service activities.

(f) Curriculum Development

With an increasing focus on the local school as the basic unit for curriculum development, there is an accompanying need for more time for curriculum planning by school staffs. The potential for relieving staffs for curriculum planning for specific periods each week through an effective and well organized volunteer program should be further explored.

(g) Professional Development

The needs in a school for programs of professional development and for opportunities to experiment may be matched or met by effective programs whereby volunteers can take over some of the more routine functions of the classroom and thereby enable the teacher to spend more of his or her time on higher level and experimental activities.

4. Support for Innovations and Other Changes

The development of volunteer programs and the resulting improvement in the exchange of ideas between the school and the home should improve the understanding and acceptance of innovations in schools.

5. Identification of the Community as a Resource for Schools

Volunteers may be aware of resources, not only among themselves, but in the community more broadly, and may be agents whereby some of these resources can be mobilized for use in school programs.

6. Broadening School Programs

The addition of short optional school courses relating closely to pupils' interests may be provided with adequate competent talent bureau assistance by volunteers.

7. Positive Approach to Home Assistance with Learning Problems

A volunteer program in the school should enable the parent to intervene in his child's learning difficulties on a more positive or supportive basis than has sometimes been the custom in the past when the parent was not aware of the learning difficulty until a real problem was recognized. It seems sensible to involve the parent at times other than in the crisis situation of remediation of a failure on the part of the child or the program. An ongoing plan for parent participation in the child's learning would avoid such crises.

8. Enhancing Parents' Skills as Teachers

A parent involvement program in a school is based on a belief that parents are in fact "teachers", although neither certificated nor professional. The possibility of the school becoming more aware of the role of parents as teachers will, in turn, lead to the improvement of parents' skills as teachers. Many volunteers have stated that they have applied at home some of the things that they learned while in schools.

9. Bridging the Gap Between Home and School

The possibility exists in volunteer programs for ensuring that the home and the school are complementary phases in the lifelong process of learning. The school will stand less in isolation from the rest of the child's experiences if his parent is involved in the school.

10. Developing Interest in Pre-School Movements

As professional educators and the public become more and more concerned about the early childhood years in relation to subsequent formal education we may need to turn our attention more toward the possible roles that parents can play in preschool educational programs whether at home or in school.

11. Building a Stronger Base for Community Support - Financial and Other

It could be argued that in the long run the financial and philosophical support for schools will depend more on the feelings, beliefs, commitments and views of parents than of any other group in the community. Parent volunteer programs can reasonably be expected to enhance or support positive attitudes in this respect.

12. Closing the Generation Gap

Some authorities suggest that the so-called generation gap exists from a lack of sharing of common tasks or common activities by parents and their children. The improved participation of parents in their youngsters' formal education should have some effect on closing this gap, at least to the extent that it is caused by a lack of mutual concerns or activities.

13. Providing Opportunities for Community Service

Anyone planning a volunteer program should consider the motivations of the volunteers as well as the needs of the school. Some of the

most commonly expressed feelings of volunteers relate to the intrinsic satisfaction they derive from providing important worthwhile service to others.

4. Enhancing the Human Touch in the School

Some schools that use volunteers in their program state that such participation enables the school to consider to a higher degree the particular interests and needs of youngsters and also provides more opportunities for youngsters to talk to an interested adult than would exist without such volunteer assistance in the school.

A Final Point of View

The purpose of volunteer programs has nothing to do with altering pupil-teacher ratios or providing a "cheap" education. They are intended to improve education, in the short run by adding human resources to the classroom, and in the long run by enhancing parents' attitudes and skills. In both phases the pupil is the one who gains most; however, in a successful volunteer program the volunteer receives recognition and satisfaction to compensate for service rendered. Unless a program recognizes and to some degree satisfies the motivations of volunteers, it is unlikely that they will continue to donate their services.

VOLUNTEER PARENTS' ASSISTANCE PROJECT

H. G. HEDGES

THE ONTARIO INSTITUTE FOR STUDIES IN EDUCATION

NIAGARA CENTRE

1972

A General Bibliography

This bibliography includes books, manuals, and reports, as well as periodical articles on the subject. The longer references usually contain information on developing a volunteer program, while shorter articles generally discuss objectives and activities. If the reader wishes to refer to only a few selected works, we suggest the use of our supplementary Selected and Annotated Bibliography on the topic.

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VOLUNTEER PARENTS' ASSISTANCE PROJECT

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THE ONTARIO INSTITUTE FOR STUDIES IN EDUCATION
NIAGARA CENTRE

1972

A Selected and Annotated Bibliography

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This is a very useful general manual on the subject, containing many ideas, examples of existing programs, forms and materials to be developed, etc.

TAXONOMY OF TEACHING FUNCTIONS

SCHOOL _____ DATE _____

TEACHER _____ A.M. OR P.M. _____

PERSON OBSERVED _____ OBSERVER _____

		CLASS REGULAR	CLASS SPECIAL	GROUP REGULAR	GROUP SPECIAL	INDIVIDUAL REGULAR	INDIVIDUAL SPECIAL	COMMENTS
1)Planning	a) Broad Planning							
	b) Specific Planning							
2)Motivation	a) Broad Motivation							
	b) Specific Motivation							
3)Instruction Sequence	a) Initiating a new concept, attitude or skill							
	b) Consolidating a new concept, attitude or skill							
	c) Adding content to structure							
	d) Consolidating content							
4)Supervision	a) Active Supervision							
	b) Passive Supervision							
5) Technical	a) Skilled Technical							
	b) Non-Skilled Technical							
6)Non-Technical								
7)Evaluation and Remediation	a) Designing of instruments							
	b) Administration of tests							
	c) Objective Marking							
	d) Subjective Marking							
	e) Interpretation of scores							
	f) Diagnosis & Prescription							
	g) Remedial Teaching							
8)Guidance and Support								
9)Haitus, Interruption and Non-coded								

ONTARIO INSTITUTE FOR STUDIES IN EDUCATION

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VOLUNTEER PARENTAL ASSISTANCE PROJECT

MANUAL FOR CATEGORIZING OBSERVATIONS

The purpose of this manual is to instruct observers in classifying classroom activities of teachers, paraprofessionals and volunteers into their appropriate category in the taxonomy of classroom functions, and in recording the duration of each activity. Some of the directions refer to the use of a standard observation sheet on which the twenty-two functions are arranged, with six cells following each function, in which the recorder determines the grouping used (class, group, individual), and whether each group was regular or special for the activity in question.

In using the observation schedule in the classroom, the observer should note the time of the beginning and conclusion of each activity and enter the time elapsed in the appropriate cell following the function in which it is most appropriately included. Thus the observer must consider three questions for each activity:

(1) What function in the schedule is being performed?

(2) Is the function performed with the class, a group, or an individual?

(3) Are the learners operating in their regular grouping or are they organized in a special group during this time?

In categorizing an activity, the observer must decide what the major function is at that time. It is recognized that many activities may have elements of several functions within them. For example, in taking up pupils' answers to seatwork, there may be elements of motivation, evaluation, and diagnosis, but in most instances the taking up of seatwork will be an integral phase of one of the four instruction sequences, and will most likely be a part of B. of D., that is, consolidating a new concept, attitude or skill, or consolidating content (see Section 3, Instruction Sequence).

Similarly, the giving of oral instruction in most cases is part of the instruction sequence rather than of supervision. In general, the nature of the instructions will be the clue to the function. If the purpose of the instruction is to have students use the skill to discover new content, then "adding content" is the correct function. If the instructions are part of a seatwork exercise that implies drill or implies a standard of performance, then "consolidating content" applies. During active supervision a teacher may provide incidental short periods of diagnosis and remediation, but such activities are themselves characteristic of active supervision, and are quite different from more formal or more enduring evaluation, diagnosis, and remediation periods. When, during supervision the teacher spends more than a half-minute in an activity belonging in another function, it should be recorded in the function to which it logically belongs.

It should be emphasized that the observer is recording the functions of the adult(s) (teacher or volunteer) in the classroom and not the activities of the pupils.

At times, the teacher or volunteer being observed may actually be performing more than one function simultaneously. For example, it is common practice for a teacher to supervise passively one or more groups of pupils engaged in seatwork while conducting reading lessons, discussion groups, or other forms of formal instruction with a specific group. In fact, this is the usual practice in multi-graded classrooms. In such situations, the observer will record the function to which the adult is devoting his/her major attention, which in most cases will be the instructional role rather than the supervisory one. However, when the adult interrupts the major function to give attention to the second function for more than a half-minute, obviously the second one will be recorded as the one to which the adult's time is devoted for the period of time that applies.

The observer is not concerned with whether the function is being performed well or poorly. All records should be made at the time--the observer should not rely on his memory to recall what function was performed. If at any time he is uncertain as to what function is being performed, he may have to consult the adult later to verify or revise his conclusion. The timing of such cases should be circled, and a note made of the concern. Observations which may seem impossible to categorize should be timed also, with a brief note made for future consideration and categorization. One of the categories provides for these situations.

The section that follows provides a definition and description of each of the functions in the schedule, with examples to illustrate that function. These examples will indicate the range that is represented in the category, from the more demanding to less demanding activities.

1. PLANNING

Planning refers to establishing a purpose and the formulation of a scheme, outline, system, method, or set of materials to be used to achieve that purpose. Planning may be done alone, with other adults, or with pupils. Sessions with other teachers, in which the team is working on curriculum or organization are recorded as planning. Discussing with a volunteer the activities to be performed will usually be considered planning, as will periods in which the teacher and one or more pupils are planning a future unit, lesson, or activity. Thus, for a teacher planning goes far beyond writing lesson plans or units. It will include most aspects of organization of the content, lessons, seatwork, etc. for the class, but not the routine mimeographing or distribution of materials. The selection of appropriate materials, the previewing of visual aids, the studying of a teacher's manual, etc. are all examples of teacher planning. While the greater percentage of a teacher's planning generally occurs out of class time, nevertheless many examples of planning of future activities may also be observed during the school day.

(a) Broad Planning

This function applies when the adult is involved in planning a series of activities over an extended unit, course or series of lessons. Long-range or broad planning will include one or more of the following: setting objectives; defining the skills, concepts, or attitudes to be developed; preparing an overall scheme, structure or framework of learning activities; arranging for interrelationships among important stages or ideas, and integrating the new learning with other aspects of the curriculum. The planning of a month's unit in a particular subject would represent a demanding aspect of this function. The least demanding activity that would fit in this function would be the planning of a short series of lessons; the planning of one lesson would <u>not</u> belong in this category. The following would be examples of broad planning: preparing a mathematics unit on graphs; evaluating a number of books to be used in a unit; outlining or writing a series of dramatic presentations in social studies; planning curriculum guidelines or materials with other adults; selecting or previewing a set or series of audio-visual materials to be used in an extended series of lessons.

(b) Specific Planning

This function is performed when the adult plans a specific activity, plans one lesson, or plans and prepares the materials to be used in one lesson or a short series of lessons. The broadest examples of this function would include the planning of all aspects of one or two lessons. The least demanding examples would be those in which the adult plans only one or two elements of a single lesson, such as by previewing a filmstrip. Those activities in which one adult does the basic planning and another adult merely applies the plan of the other will not be considered in this function for the second adult. Some examples of specific planning are: the selection of materials from books; organization and presentation of a set of film slides relating to a particular lesson; the planning and construction of a model, game, map, chart, etc. for use in a lesson; the practising, in advance, of a skill to be taught; the preparation for presentation of a single lesson; the surveying of an area for a field trip; the selection of a film to enrich a lesson for unit; the writing on the board of a seatwork exercise not prepared in advance of such writing; the outlining of a specific assignment to another person who will carry it out and the planning of a future activity with one or more pupils. The assessing of a pupil's readiness to proceed to the next stage in a learning sequence, an activity frequently associated with individualized programs, belongs in this category; the function of diagnosis as defined later implies, in this manual, the consideration of the cause of errors or difficulties. Thus assessment of readiness belongs in "specific planning", but diagnosis of weaknesses belongs in "diagnosis". In situations where teachers assign individual work, as in individual progress books, the writing of such assignments in considered to be specific planning.

2. MOTIVATION

Included in this function will be any activity whose basic purpose is to interest, stimulate, or encourage the learner with respect to the school program, or to provide him with a goal, reason or motive to act in a certain way or to initiate or persist in some type of activity. The observer will not include in this category the numerous incidental forms of motivation such as brief and incidental reactions to correct answers, incidental approval or praise, and moves listed under guidance and support (below) which relate mainly to behavior. The observer must discriminate between deliberate moves, usually at the beginning of structured lessons, in which the intent is to focus interest on a topic (motivation), and interesting teaching methods which have the purpose of facilitating learning

rather than focussing attention; the latter may reflect the quality or effectiveness of another function in which they should be classified. The purpose of motivation, as defined in this category, is related to specific, deliberate encouragement to become mentally involved in some aspect of the school program.

(a) Broad Motivation

The kinds of motivation which provide for a long-term interest in some phase of the program will be included in this category. They may range from such activities as discussions of the value of mathematics, of ways of working more effectively and of developing positive feelings about other cultures, to activities as narrow as creating sustained interest in fractions or a continuing appreciation of bird life. Such activities as reading stories to the pupils for the purpose of developing appreciation of the language, or making use of art objects or records to develop appreciation of art and music will be regarded as broad motivation.

(b) Specific Motivation

Those forms of motivation that relate basically to the developing or identifying of interest in a specific lesson or problem will be considered specific motivation. It may be as broad as encouraging pupils to look for examples of decimals in the day's newspaper or as narrow as challenging them to find the answer to a specific problem. The relating of a specific problem, concept, skill, or attitude to relevant, and particularly current out-of-school experiences will be regarded as specific motivation.

3. INSTRUCTION SEQUENCE

This section deals with those activities designed to initiate, reinforce, consolidate and make use of new learning. The section is divided into the four subsections that follow, each of which deals with one of the four related functions in instruction. Following the descriptions of the four functions, examples are provided to illustrate the relationships among these functions. Distinguishing between the four functions is particularly difficult when they do not occur in their natural sequence. They are most apparent in formal, structured lessons, but can be identified in less formal situations, if it is established that at the time the teacher is engaged in instruction rather than in supervision. The key to the functions in their apparent purpose, whether (a) initiating a new structure or schema; (b) consolidating or reinforcing a tenuous new concept; (c) adding content, i.e. using the new idea; and (d) consolidating the content by review, drill, a game, etc.

(a) Initiating a Concept, Attitude or Skill (Mental, Motor, or Social)

The criterion for determining whether an activity belongs in this category is whether the volunteer is initiating new learning which has a broader application, as opposed to providing for reinforcement, application, practice, or remedial instruction of a concept, attitude, or skill initiated in earlier instruction. The key question would be: "Is a new attitude, skill or major concept being introduced in this activity?" One cannot expect to observe this function in every "lesson". Unless new learning is being initiated, the activity belongs in one of the next three categories. In some subject areas, this function will serve to establish a schema, generalization, principle, skill, or structure which will be applied in subsequent lessons, as in learning a map skill, a classification system in science, a new procedure in mathematics, or a social skill such as leading a discussion.

The initiating of a skill will involve activities as major as an introductory lesson on writing a business letter or "carrying" in addition, or as narrow as introducing a phonetic combination or introducing a specific style of writing a particular letter of the alphabet. Some examples of activities that would belong in this category are: introducing the addition of decimals; teaching pupils to locate the parts of a flower; teaching how to find a specific land form on a map, or to divide a sentence into bare subject and bare predicate; introducing how to use the card catalogue in the library, how to greet and welcome a visitor, how to pitch a softball or how to mix paints for watercolouring.

(b) Consolidating a New Concept, Attitude or Skill

The purpose of this function is to consolidate the learning of a new concept, attitude or skill, prior to adding new content or applying the new learning to other situations. The emphasis must be on consolidating new learning itself. In most instances, it will occur immediately after the initiation of the new learning, and generally occurs within the same "time-table" period, that is, as part of the same lesson. This function may include recognition and immediate reinforcement of the new learning, a limited amount of trial practice, simple test procedures, diagnosis of general difficulties with the new learning, re-teaching, suggestions for refinement of the skill, etc. Activities in this category may be as broad as having pupils write a paragraph to apply a specific skill, or as narrow as having them practise writing a letter of the alphabet, listing and reading words with a common phonetic pattern, and trying a specific basketball shot. Some typical examples of this function will be assigning a single arithmetic question designed

to consolidate a particular skill; finding examples of a specific land form on a map; having several pupils go to the board to try examples of the new concept, or having pupils explain the process through which the new concept was acquired. Included will be those situations where the object is trial or initial practice, and immediate reinforcement or initial improvement of a skill itself--whether in printing, writing, reading, physical traning, cooking, sewing, etc.--rather than the application of the skill to content or to new situations, or the long-term practice of the skill to achieve certain standards of performance.

(c) Adding Content to Structure: Applying New Learning to Other Situations

In general the activities that belong in this function are those in which a new concept, attitude or skill is being used beyond the context in which it was learned, so that new content is being associated with or added to the mental representation of the concept or skill. For example, if the skill of using a leaf-key has been introduced, then the use of that key in identifying new and unknown leaves will fall in this function. Similarly, if the skill of using a card catalogue in the library has been introduced, helping pupils use this skill in hunting out books on a particular topic fits this function. Other examples are: having pupils use Cuisenaire rods to find new number facts; using the rule "i before e" in spelling new words. Activities within this function may be as broad as applying a specific map skill to locate particular information such as the bounderies of a country, its rivers, its principle cities, etc. or as narrow as having pupils list examples, whether they be words, places, animals etc., in which the application of a skill has enabled the learner to develop new content; for example, if a student has been taught the skill of identifying nouns, then the listing of the nouns in an exercise would come within this function. Some further examples of this function are: reading for information, describing a number of birds after having learned the skill of describing a typical bird, using a skill in music to work out a new melody or to play a melody not formerly played, etc.

(d) Consolidating Content

The intent of this function is to arrange for further practice, drill, review, integration and consolidation of new content. Reference to or the application of external standards of performance, such as percentage of correct answers, pace or efficiency of performance, etc. will almost automatically place the activity in this function unless it is clear that a test (evaluation) is being employed. The provision of opportunities for practice to attain certain standards will identify such an activity with this function. The teacher may apply this function as broadly as in reviewing the voyages of an explorer, or this function may be as narrow as drilling such content information as the names of provinces and their capitals. Drilling

with flash cards, doing a series of mathematics problems, writing out spelling words, etc., all of which imply certain standards of performance, are obvious examples of this function. Similarly, helping pupils write up the results of a science experiment to consolidate this experience, preparing a summary of a social studies lesson, retelling a story, practising a song, playing a mathematics game (but not learning the game itself) would all be activities designed to consolidate content.

Examples Illustrating the Four Functions in Instruction

Example 1: Developing the Concept of Addition (Mathematics)

(a) Initiating the concept. This function would include only the activities that would lead the pupil to acquire the idea that sets can be joined together and that this process is addition.

(b) Consolidating the concept. Further examples are used to strengthen the mental representation of the process of adding, by providing experiences that reinforce the idea to the point where the pupil can employ the process without external prompting, for example, he might combine (add) rods or sets of objects and count the sum.

(c) Applying the new learning to other situations. Using the mental representation of the process of adding the combined sets, the pupil now creates new number stories by using the process, e.g. combining 4 and 3 to discover that $4 + 3 = 7$.

(d) Consolidating content. The number story $4 + 3 = 7$ would be rehearsed or drilled, either by itself or with other number stories, to the point where the correct response is given to meet a standard such as within two seconds without counting.

Example 2: Learning to Identify Minerals by Hardness

(a) Initiating the concept. This function includes activities which enable the pupil to form the concept that hardness is a fixed property of minerals and that by scratching one mineral with another or with certain independent objects, hardness of these materials can be compared. The emphasis is on the fact that minerals and objects can be compared with each other in terms of hardness, a fixed property.

(b) Consolidating the concept. In this function a wider variety of mineral and objects are tested to see whether the concept can be applied to them; as yet an index is not developed.

(c) Adding content to structure. Using the concept, pupils compare minerals and develop an order, or index, of hardness and check it against an accepted hardness scale. Using the index or scale, pupils learn to identify new examples of minerals.

(d) Consoldicting new learning. Pupils review or practise the use of the scale, by sorting out minerals from a random selection, to the point where they can fit known or unknown minerals into the scale with less than 10% error.

Example 3: Developing Positive Attitudes Toward Japanese People.

(a) Initiating the attitude. In this function, pupils will be exposed to a situation where a positive response will be expected. This might have to do with a Japanese design, artifact, game, etc., or with an event or situation (e.g. 1970 World's Fair in Japan; 1972 Winter Olympics, etc.).

(b) Consolidating the new attitude. The pupils' positive response is identified and encouraged in one or more ways such as repeating the response, discussing positive features, imitating or repeating the situation, etc.

(c) Applying new learning to other situations. The initial response is applied to broader situations, such as other aspects of Japanese life. Again positive reactions are encouraged.

(d) Consolidating content. Opportunities are given for reviewing the experiences recalling some aspects of them, integrating several related aspects, etc., to the point where open or positive attitudes toward Japanese people, stories, etc., are observed in automatic positive responses to pertinent situations.

4. SUPERVISION

Activities to be classified as supervision are those in which the volunteer is supervising the work of pupils, who in turn are working more or less independently of the supervisor. In general, supervision will relate to the seatwork applications of lessons. However, it will also be observed at such other times as in art periods, when the pupils are creating new products or developing new ideas, and also during discussion sessions in which the pupils are working together on common ideas or common goals or in physical education periods when pupils are practising a skill or playing a game.

(b) Active Supervision

During active supervision the supervisor actually participates deliberately in the learning activity, either by asking a periodic question, answering questions raised by pupils, referring pupils to sources of information, making incidental diagnosis of pupil progress, making suggestions, pointing out errors, suggesting further questions for disucssion, etc. Such interventions suggest that active supervision is taking place. Active supervision, therefore, may include some periodic intervention relating to understanding and consolidating content, or to checking and correcting errors or reinforcing correct learning. Similarly where the supervisor takes an active part in continuing the organization and reorganization of experiences, e.g., as in giving directions on a field trip, active supervision is taking place. In situations where individual pupils or small groups of students are pursuing independent study activities, the observer must constantly be alert to the question of whether the teacher is supervising or whether actual instruction is being provided by the teacher. When the teacher performs an independent function (e.g. initiating new ideas, diagnosing, etc.) for more than one-half minute at a time, the period of time should be recorded in its appropriate function.

5. TECHNICAL

The activities appropriate to this function are those which employ a definable technique or procedure which is learned or enhanced through training or practise. The activities in this category will be those of a technical rather than a professional nature; therefore such activities as questioning, story telling, reading to pupils, etc., will not be considered in this category. The range of technical tasks will run from those such as typing and organization of visual aids at the upper level of difficulty, through activities such as the maintenance and operation of equipment, the preparing of stencils, etc., in the middle range of difficulty, to less demanding activities such as running stencils, cutting out pictures, making flash cards, etc. In general, this function will be identified with the use of materials and equipment

(a) Skilled Technical

In this catefory are included those technical tasks which require a formal or lengthy period of training and a high standard of competence. Examples are typing, bookkeeping, overall maintenance of a library, maintenance and repair of technical equipment, the preparation of complex teaching aids, the organization of sets of visual aids, complex filing procedures, maintaining of pupil records, etc.

(b) Non-skilled Technical

This category will include those tasks of a technical nature which would require only a short period of training prior to performing the task, or which would require only a short period of on-the-job training. Typical examples would be the operating of simple audio-visual equipment, running mimeograph machines, filing pictures in an established file, carding and shelving library books, assembling laboratory equipment, preparing flash cards, preparing bulletin board displays, etc.

6 NON-TECHNICAL

This category includes activities which are of neither a professional nor a technical nature; thus, the activities in this category require neither skills in questioning, discussing, story-telling, etc., on the one hand, nor skills involving training in the use or preparation of materials or equipment, on the other. This function then includes only activities of a support or maintenance nature such as housekeeping of the classroom and assisting with routine activities of a more or less repetitive nature. Therefore, in this category will belong such tasks as distributing educational materials, collecting materials, cleaning up the classroom, temperature control, ventilation, lighting, assisting with clothing, marking attendance, collecting supplies, collecting routine resource materials, bearing messages, collecting monies, collecting routine information, etc. Also included in this function are special activities such as providing transportation on field trips, and acting as adult companions on field trips when no major supervisory function is required.

7. EVALUATION AND REMEDIATION

Included in this broad category are all those activities which are designed to evaluate or to assist youngsters in evaluating their own progress, to diagnose specific learning difficulties, and to prescribe, prescribe, and apply remedial procedures. For the purpose of classifying further the activities which together are considered to be evaluation and remediation, we have set forth seven sub-functions as follows:

(a) Designing of instruments. This category includes all activities related to designing methods or instruments for measuring the pupils' achievement of objectives or goals, including the preparation of devices, check lists, tests, exams, questions, etc., which will enable the teacher to measure or diagnose the progress of youngsters. One exception to this description is the use of a standard of performance within the instruction sequence, (see Instruction Sequence, Pard D) wherein the practicing of a skill is related to an external standard of performance. The use of a standardized test does not constitute a part of this function because designing the test is not a part of the activity.

(b) The Administration of Tests. This category includes explaining the nature and purpose of the test, and supervising the actual test-taking, whether the tests are formal or informal and whether teacher-prepared, prepared by volunteers, or prepared by an outside agency. This function does not imply that the test has to be of a long duration or of a formal nature, but will include any procedure which the teacher employs in a systematic or deliberate manner to evaluate the progress of youngsters. The use of a standard of performance in association with the practise of a skill (see Instruction Sequence, Part D), is not included in this category.

(c) Objective Marking. This category involves the marking of tests (including standardized tests), exams, or other items in which the responses are either definitely correct or incorrect and therefore require no significant amount of interpretation. Thus the marking of spelling, in general, would fall in this category, as would the marking of right and wrong answers in arithmetic or any other subject, the scoring of multiple-choice tests, etc., if no interpretation is necessary in determining the correctness or value of the answer or if there is no demand that the marker determine the cause or nature of any error. In objective marking, a number of independent markers would be expected to obtain identical scores.

(d) Subjective Marking. This category involves marking wherein the marker has some discretion in determining the weighting to apply to the score given for any item in the test or any identifiable component of the finished task. In subjective marking it is unlikely that a number of independent markers would mark the test with exactly the same results. Examples of subjective marking will occur in arithmetic problems in which the process as well as the answer must be evaluated and in the marking of art, composition, music, scientific thinking, etc. The oral evaluation of pupils' art, creative writing, etc., which often involves opinions of the other pupils, is included in this category if its nature is clearly evaluative. If, however, the activity is more clearly designed to illustrate alternative ideas or to identify outstanding ideas, the activity is more appropriately recorded as "adding content to structure" -- Part C of the instruction sequence.

(e) Interpretation of Scores. This category includes using the score to determine the student's placement in the program, determining the range of marks obtained by the pupils, determining whether the test items were too difficult or too easy, too short or too long, whether they were valid for the purposes intended, whether a further test is required, etc.

(f) Diagnosis and Prescription. The activities in this sub-function will be those which relate to determining what the cause of error is on the part of an individual or a group, and what remedy should be prescribed. In performing these functions the teacher analyzes possible causes of the error, such as limited or long-range duration, or whether the error was accidental or reflects a lack of understanding of a skill or concept. For example, the teacher may decide to place

the youngster in a special program for a specified period, or to re-teach some items to certain individuals or groups, or to modify teaching procedures. Some examples of specific activities in this category are: discussions with one or more pupils in which the teacher analyzes causes of error, and sessions in which the teacher marks exercises, note-books, compositions, etc. to identify errors and suggest improvements rather than to evaluate for the purpose of assigning marks. However, examples of diagnosis and remediation of extremely short duration or having only incidental application within the structure of another function, for example, correcting the identity or pronunciation of a word in spelling or correcting a minor error in arithmetic, will not be included in this category.

(g) Remedial Teaching. This function includes specific remedial practices employed with specific individuals or groups, as a follow-up to diagnosis. It is a planned and deliberate activity, and therefore will not include incidental re-teaching or incidental activities employed merely to clear up minor misunderstandings. In general, the adult will apply the remediation only to specific individuals or groups. When a teacher selects individual pupils to assist, the observer must distinguish between the procedures which are in fact diagnosis of the learning difficulty, and those which provide remedial instruction. In special education classes most of the typical lessons will fit into the instruction sequence except when specific diagnosis and remediation are provided with individual pupils.

8. GUIDANCE AND SUPPORT

This category cincludes the activities of the teacher or the volunteer that relate basically to the improvement and support of those aspects of pupil behaviour that are not integral or manifest parts of the instructional program itself, i.e., that are not related to the skills and content being studied. Included are those activities generally referred to as "discipline", but because this term tends to imply negative and correctional activities, we have deliberately entitled this category "guidance and support", to emphasize that it will include both the positive and the negative aspects of behaviour. Thus in this category will be included such activities as the following: conversations with individuals about out-of-school activities, personal and home problems, study habits, or interests which are not a formal part of the curriculum; activities designed mainly to establish a friendly positive climate for learning; and activities or discussions designed to correct undesirable behaviour or to support and encourage positive behaviour. Incidental recognition or praise for a correct answer or an approved example of behaviour within the structure of a lesson or in another category will not be recorded. The observer must distinguish between this category and the categories under motivation, bearing in mind that motivation as defined in this manual relates directly to the content of the learning program, while the present category relates to behaviour not directly related to content.

9. HIATUS, INTERRUPTION AND NON-CODED

The purpose of this category is to account for periods of time which cannot be included within the previous categories. These are of three general kinds, as follows:

1. Hiatus, in which the adult being observed is performing none of the functions in previous categories. Examples will be activities unrelated to school duties, absences from the classroom unrelated to classroom responsibilities, periods of rest, waiting for pupils to arrive, social conversation with another adult, etc.

2. Interruptions, during which time another person, such as the principal or other visitor, in effect replaces the teacher or person in charge for a short period of time. The interruption may occur as a result of the direct presence of the other person, or by his indirect presence as through the use of an inter-communication system. However, such planned activities as the use of a television program will not be included in this category; during such periods the adult performs another function, such as passive supervision.

3. Non-coded. If the observer is unable to classify certain activities or functions he should include the time within this category, and in the column at the right he should enter remarks that will enable him to recall and describe the activity so that it may be reclassified after further discussion and analysis. Some such entries are activities that the observer simply cannot identify for classification purposes; others may contain a balance or mixture of items from two different categories to an extent that discreet categorization seems impossible.

General Instructions

1. The column at the right will enable the observer to make additional comments or record questions about any activity that has been tentatively classified. Circle the timing for activities that are only tentatively categorized.

2. Record the elapsed time for each function to .1 minutes (6 seconds). When uncertain initially about the appropriate function being performed, note the beginning time while arriving at a decision.

3. Be sure that the entire period of time under observation is accounted for, bearing in mind that the last category provides for a number of situations that might otherwise represent losses of recorded periods of time.

4. When there is uncertainty about the categorization of certain activities, short discussions with the adult concerned at an appropriate time may be helpful.

THE ONTARIO INSTITUTE FOR STUDIES IN EDUCATION

Niagara Centre
187 Geneva St.
St. Catharines, Ont.

VOLUNTEER TALENT BUREAU

School _____

The purpose of this questionnaire is to help us identify and recruit volunteers who have special interests, abilities, talents, backgrounds, or resources which they would like to share with the school. The school has already had considerable experience with volunteer programs which involve community helpers on a continuing basis. Our interest in this questionnaire is with persons who could share special talents with us for one or a limited number of occasions.

May we emphasize that you do not necessarily have to be able to teach a lesson or give a formal talk in order for the pupils to benefit from your talent. In most cases you will work with a small group of students, leading a discussion, giving a demonstration, or answering questions. In our experience we have found that volunteers are quite able to work effectively with small groups.

Would you please answer the appropriate sections of this questionnaire and return it within two days.?

Professional or Occupational

Types or work experience that may be beneficial to the school (typing, carpentry, geology, library, banking, mechanic, science, teaching, etc.)

Artistic and Recreational

(e.g. painting, sculpture, crafts, sports, gardening, nature study, travel, sewing, dramatics, cooking, photography, etc.)

Ethnic background

Costumes, dancing, language, etc.

Special Resources

-- pictures, slides, stamps, etc. from other regions or countries
-- collections (art, photos, minerals, plants, etc.)
-- pets
-- antiques and pioneer artifacts
-- other

Special Abilities

-- library, teaching, story-telling, nature hikes, sports, pioneer experiences, coamping, etc.

Any Other Talent or Resource

Locale

Would you prefer to help at school or at home?

Conditions or Frequency

How often would you be available to help at the school?
(Please indicate which days and times.)

COMMENTS

Name: _____

Address: _____

Telephone number: _____

VOLUNTEER PARENTS' ASSISTANCE PROJECT

H. G. Hedges

Niagara Centre
The Ontario Institute for Studies in Education

Information on Regulations of the Ontario Ministry of Education Concerning Volunteers in Schools

Bill 128: An Act to Amend the Schools Administration Act

(1) Section 18, subsection 2, amended to permit a board to allow the use of voluntary assistants in schools.

2b - "permit a principal to assign to a person who volunteers to serve without remuneration such duties in respect of the school as are approved by the board and to terminate such assignment"

(2) Section 17, subsection 6 is amended to make mandatory the provision of liability insurance for a board and its employees and volunteers assigned to duties by the principal.

(1)6 - "make provision for insuring adequately the buildings and equipment of the board and for insuring the board and its employees and volunteers who are assigned duties by the principal against claims in respect of accidents insurred by pupils while under the jurisdiction or supervision of the board."

VOLUNTEER PARENTS' ASSISTANCE PROJECT

H. G. HEDGES

Niagara Centre

The Ontario Institute for Studies in Education

SCHOOL VOLUNTEERS
Approved at the Meeting of the Board of Governors
January 12 & 13, 1973.

35. It is the policy of the Ontario Teachers' Federation:

(1) That volunteers in the schools shall mean responsible persons who provide a service to the school to fulfill specific needs, as determined by the principal and the teaching staff directly involved, without reimbursement or contractual commitments of any kind.

(2) That the function of school volunteers is to assist the teacher and/or the school.

(3) That school volunteers shall be responsible to and designated by, the principal of the school.

(4) That school volunteers who work with children shall work at all times under the supervision of a designated teacher.

(5) That school volunteers shall assume no responsibility for any evaluation involving the school personnel, pupils or program.

(6) That school volunteers shall not be included in the calculation of student-teacher ratio.

(7) That any teacher has the right to decline school volunteer services.

(8) That teaching functions which involve decisions regarding diagnosis of pupil difficulties, prescription of learning experiences, and evaluation of pupil progress are the exclusive domain of the professional teaching staff.

HALTON COUNTY BOARD OF EDUCATION

STUDENT VOLUNTEER ANECDOTAL INTERVIEW FORM

NAME _____ Date _____

SCHOOL _____ Interviewer _____

GRADE _____

SPONSOR (dept., teacher, or other) _____

SCHOOL WHERE VOLUNTEERED _____

TEACHER/AREA ASSISTED _____

AGE, GRADE, LEVEL OF STUDENTS _____

NUMBER OF TIMES ASSISTED _____

LENGTH OF PERIOD OF ASSISTANCE (average) _____

1. What types of tasks did you perform?

Task	# of Minutes	# of Times	Size of Group

2. What were your reasons for becoming a volunteer?

_____

_____

_____

_____

3. What did you learn from your volunteer work?

_____

_____

_____

_____

_____

_____

4. In what ways has volunteering changed you? (Skills, attitudes, beliefs, your own views of your abilities, etc.)

5. How did the students you worked with benefit from your help?

6. Estimate the percentage of your total volunteer time that you spent in actual teaching (instruction).

7. Do you believe that good use was made of your abilities?

8. How do you think the teacher benefitted from your help?

9. What problems did you encounter either at your own school or at the school where you were helping?

10. Comments, suggestions for improving the volunteer program.

HALTON COUNTY BOARD OF EDUCATION

TEACHER ANECDOTAL INTERVIEW FORM: RE VOLUNTEERS

NAME _____ DATE _____

SCHOOL _____ INTERVIEWER _____

AREA/LEVEL TAUGHT _____

AREA OF ASSISTANCE (if applicable) _____

No. OF TIMES OF ASSISTANCE _____

LENGTH OF TIMES OF ASSISTANCE (average) _____

NAME OF THE ONE VOLUNTEER ON WHOM THIS REPORT IS BASED

_____

1. What types of tasks did this volunteer perform?

Task	No. of Min[illegible]	[illegible]	[illegible]

2. How do you feel your students benefitted from this volunteer's help?

_____

_____

_____

_____

3. How did you benefit from this volunteer's help?

_____

_____

_____

_____

4. How was the allocation of your time altered as a result of this volunteer's help?

5. Has the service of this volunteer more than compensated for the additional planning required on your part?

6. How has this volunteer benefitted or changed as a result of this service?

7. What major problems did you encounter with the program in general or with this student in particular?

8. How many volunteers do you utilize on a regular basis? _____
Do you feel this is the ideal number for you?

9. Comments, suggestions for improving the volunteer program.

PARENT INVOLVEMENT AT ELMWOOD SCHOOL

Niagara Centre, OISE

1 9 7 3

Elmwood Public School is a small neighbourhood school serving a circumscribed section of the City of Welland, for the Niagara South Board of Education. Its population is 109 pupils, drawn from approximately seventy families. The school is served by four teachers (including the principal) so it is considered to be a small neighbourhood school.

Parental Assistance is not new to Elmwood School. For over a year, one parent has worked regularly at the school in a remedial capacity. Because of this experience, there was a desire to increase the level of parental involvement in the school program. The principal of the school approached Niagara Centre of OISE for aid in this expansion. It was evident that the staff as a whole looked upon the idea of increasing parent involvement with some trepidation, but the interest in improving the school program was such that they were prepared to investigate the idea thoroughly. Accordingly, at a meeting with the staff, the possibilities for program expansion were outlined and a series of questions and issues considered. The staff decided to proceed with an expanded program, and a public meeting was arranged.

At the meeting with parents from the school community, which was very well attended, overall reactions appeared positive. At the same time, several of the questions posed by various parents suggested that there was a little hesitation on the part of some to present themselves to the school as potential contributors in the educational setting. These questions were dealt with as forthrightly as possible, both by the project director from the

Niagara Centre and by the principal and teachers. Because of the positive tone of the public meeting, the school staff proceeded with the implementation of a full-blown parent volunteer program following closely the steps in the Hedges' model.

From that point on, the organization, implementation and operation of the parental assistance program was completely under the control of the school itself. As a result of the response to the survey questionnaires, eighteen parents volunteered for regular duty and eleven wished to be employed as on-call assistants. Therefore, a total of twenty-nine parents representing over forty per cent of the families in the school district made themselves available in the first recruitment for involvement in the school program. This was a highly gratifying response to the school's request for aid. Three losses from this original group were incurred during the year. One parent became ill and was unable to continue with her duties; one parent accepted a job and therefore had to resign from the parent volunteer program; and a third parent wished to be relieved of her responsibilities. Even with these losses, the level of initial involvement by parents in their school is especially notable.

Parents were assigned various duties including originally many of the clerical functions commoningly assigned to parents. However, one notable feature of the Elmwood program is that the parents by and large were almost immediately given tasks helping children. This had a very positive effect on the level of parent interest. Most parents spent the majority of their time working on a one-to-one basis with students; however, there were instances when parents worked with small groups of children (usually three or four).

As in many parental assistance programs, the major emphasis of volunteer aid was in the reading program. The greatest visible effect appeared to be that teachers were able to individualize the program to an extent not previously possible. Those pupils most requiring individual attention received it either from a parent or from a teacher whose time was available because of the involvement of a parent in another activity. From this point of view, the major emphasis of the parent volunteer program was as a remedial adjunct to the regular program.

There is one unique and highly desirable feature to the Elmwood project. One parent was not able to work at the school because she has small children requiring her attention at home. However, her level of interest was such that she volunteered to act as "dispatcher" for the program. All of the telephone contact was done through her: when parents could not come to the school at their regular time, they phoned the dispatcher; the dispatcher phoned "on-call" volunteers to make substitute arrangements. Every member of the school staff mentioned this contribution as an immeasurable saving of time for the school itself.

The Elmwood program was evaluated in the same manner as in many other parent volunteer programs. Teachers and parents completed anonymous questionnaires (which most of them signed) and the children of volunteers were interviewed by a research assistant from Niagara Centre. In addition, a matching sample of children whose parents were not involved in the volunteer program were also interviewed. All interviews of children followed the format of the questionnaire in the Hedges' kit.

The evaluation results were overwhelmingly positive. In addition to

praiseworthy comments, some suggestions which might be included in the program in succeeding years were also offered.

The children of volunteers made no negative comments concerning their own parents' presence in the school and in the classroom. They discussed their parents' contributions without any visible embarrassment. Several children commented that their parents discussed with the family at home their activities at the school and all of those children appeared to enjoy the idea of such discussion.

Other children whose parents were not involved in the program gave similarly positive comments. They appeared to know what the volunteers did in the school as well, although they described this involvement in more general terms. They perceived the parents as helpers of both children and teachers. Many children who had been assisted directly by parents recalled the particular nature of such assistance, and appeared impressed with what the parents had been doing. Without exception, these children stated that they would be pleased if their own parents joined the volunteer program.

The teachers reported many advantages accruing to the school because of the parental involvement. The major ones are listed.

1. The presence of parents made it possible for them to individualize the kind of help provided for various children.

2. Teachers were able to extend the range of the programs in the classrooms. They could, for example, prepare more tapes which could be used by more individual students in many of the subject areas.

3. The more intimate involvement of parents in the operation of the school was seen as a positive advantage. This was described as more than

simple public relations; it was preceived as a step toward the basic community cooperation necessary for the optimal development of every child.

4. Various alterations in the role of the teacher were mentioned. Some pointed out increases in the decision-making function while others noted that less time was required for routine operations.

One teacher's summary comment is representative:

"Our program has worked so well that I wonder how I managed before it started. Children, of course, have benefited most of all."

The questionnaires completed by the parents indicated that their perceptions of the school, of teachers, and of their children and other children had all changed. Without exception, these appeared to be positive changes. Many parents reported a genuine sense of achievement as a result of their work in the classrooms, and all are willing to continue with the program next year. They believe that the teachers appreciate their contributions, and they express the hope that more parents will become involved and increase the effectiveness of the school program.

One parent attached a letter to her questionnaire. It is reproduced below because it summarizes the tenor of the parents' responses.

"I am really pleased to be a parent volunteer. I enjoy the children. I find it is a challenge which all parents need to bring them closer to their children. The children spend so much time away from their mothers while at school and learn so much -- that we tend to become dull and unattached; so if we are involved daily we can see how extensive their education really is. Being a part of the system really helps parents understand their children to the fullest. I believe we as parent volunteers are helping the

pupils and in return learning something ourselves."

The following suggestions were selected from the various questionnaires:

1. Increase the scope of the parental assistance program.

2. Provide an in-service training program early in the school year.

3. Increase the effectiveness of communication regarding the operation of the program. Encourage parents who must be absent to call earlier so that suitable arrangements can be made. Provide more effective feedback to the dispatcher.

Elmwood School will have a new principal in September. Many innovations do not survive a change in leadership. It will be interesting to watch the effect of leadership change on this instance of educational innovation. The involvement by parents and teachers is so great and the benefits to the children so extensive and so readily apparent that the prognosis appears positive. The program should continue successfully next year. The parent volunteers, in fact, have already suggested plans for an in-service session early in September; they are ready to resume their service to the school.

Finally, the success of the Elmwood School project in having representation from over forty per cent of its home in the initial stages of its volunteer program should help to convince other schools that with the careful implementation of a deliberate plan one can anticipate responses from a significant cross-section of its community.

VOLUNTEER ASSISTANCE IN SCHOOLS: HELP OR HINDRANCE?

Calgary, March 1973

H. G. Hedges

NIAGARA CENTRE

THE ONTARIO INSTITUTE FOR STUDIES IN EDUCATION

187 Geneva Street

St. Catharines, Ontario

For the past five years there has been growing in schools in Canada and elsewhere a movement that was almost unheard of a generation ago, the direct involvement of volunteers, and particularly parents, as assistants in their children's schools. Our own evidence, based on surveys in the Niagara Region in Ontario, then in Ontario at large, further supported by evidence from the United States, indicates that this movement is still in the early stages of its growth, and will probably represent in the 1970's the greatest single change in personnel in our schools. At a time when questions of teacher-student ratio and restricted budgets come to the fore in conversations with school administrators, one cannot avoid speculating on the possible relationship between volunteer help in schools and those other two issues. To date the trend toward volunteer help in schools and the other two issues are merely running parallel to each other, and one would have a difficult time establishing a cause-and-effect relationship between them. To illustrate this point, we have found in Ontario that in spite of there being volunteer programs in over three thousand schools, none of these schools contends that there has been any causal relationship between changes in either budgets or teacher-student ratio and their volunteer programs. Therefore one might contend that volunteering in schools represents the first major innovation in schools in recent times that has had no relation whatsoever to school budgets, and yet may have an important bearing on the achievement of the school's objectives.

The question of whether volunteer helpers in schools are in fact a help or in reality a hindrance is itself a complex question, particularly if one is prepared to evaluate the question in terms of the effects upon a number of different groups of people associated with the school. If one were to evaluate volunteer programs only from the point of view of principals, one could probably in many instances conclude that because of issues such as confidentiality, extra work for the principal, problems in irregularity of attendance, insurance, legal considerations, questions of public relations, etc., the whole matter might be regarded as at least a nuisance. To suggest this possibility is not frivolous, because in our earliest surveys of volunteer programs in Ontario schools we found that evaluations were done mainly and sometimes solely on the basis of the principal's evaluation based mainly on his own needs. Further evidence of this comes from a recent survey of principals in which we analyzed the questions that principals asked about volunteer programs; of 140 questions posed by principals 50 per cent had to do with problems of the principals themselves, related mostly to security, public relations and legality. The second largest category of questions had to do with teacher security, and the third with questions of implementation. Only the smallest handful of questions related to benefits to teachers and benefits to parents, and of 140 questions only one related to evidence of student growth or student gain! Again, if one asks the question, "help or hindrance?" only in terms of teachers' concerns one is likely to conclude in many cases that volunteer programs are detrimental, because many teachers no doubt find that problems of personal security, extra work, problems of organization, fear of other adults in the classroom, fear of losing control of the class, fear of volunteers being less competent than themselves, and other such matters may lead them to conclude that volunteer assistance is in fact a detriment. Such points of view obviously neglect consideration of the effect of volunteer programs on the volunteers themselves, whether they be parents, elderly people, other adults from the community, students from community colleges, teachers' colleges and universities, artists and other professional people in the community, or secondary school students. Even more important, evaluations of volunteer programs that are confined to the

views of principals and teachers very often neglect the ultimate question of whether volunteer programs in fact enhance student growth.

The question then of help or hindrance must be determined on the basis of the potential benefits and disadvantages to at least four groups of people -- the principal, the teachers, the volunteers and the students. Further, one must consider how much relative weight should be assigned to the advantages and disadvantages for each of these groups. We are prepared to contend that no longer can evaluations of volunteer programs be based solely on the attitudes of principals and teachers, on the assumption that what is best for principals and teachers is by definition also best for students. In looking further at questions of advantages and disadvantages of volunteer programs there may be value in looking at a broad range of objectives and outcomes of volunteer programs in schools, and in the process considering both the theoretical and the research evidence on the subject.

Our own interest in exploring the potential of volunteer assistance in schools was stimulated by the findings of the National Survey of the Plowden Committee Report in England several years ago. You will recall that the National Survey, which conducted a correlation study to determine the relationship between various factors in the youngster's environment and his achievement in school, and which was based on 3,000 students in 170 communities, showed clearly that more of the variation in pupil achievement can be attributed to differences in parental attitude than to either differences in the conditions of schools or differences in the characteristics of homes and communities. Educators have long observed, and have had considerable research evidence to establish that parental attitudes relate strongly to student achievement, but it was not until the late 1960's with the results of the Plowden Committee Report and subsequent studies in the United States that we began to suspect the powerful impact of different parental attitudes on variations in achievement in schools. Our own conviction on the matter of altering parental attitudes is that attitudes are shaped more by experience than by persuasion, and that in the long run we shall probably have to provide parents with a different set of experiences about the school if we intend seriously to have any significant success in enhancing, improving or altering attitudes.

In the schools in which we have been implementing our general model for parental assistance programs we have found marked improvements in the amount and form of communication between parents and teachers. It is clear that both parties have important information about the pupil which often fails to be exchanged for a variety of reasons which may include time available, lack of trust in the other person, formality of presentation, and the inclination for most parent-teacher interviews to flow in one direction only.

Our most important research on the question of the effects of volunteer assistance in schools has been in measuring changes in what teachers state are two of the most important elements of their work in the classroom, the amount of time that they can spend with each individual student, and the percentage of their time that teachers can give to what they regard to be the highest level of professional functions of the classroom. Our claim that these two elements of the teacher's work in the classroom are of greatest concern to teachers is supported by the usual arguments that teachers give against increasing the student-teacher ratio, namely that increasing the number of students in the classroom reduces the amount of time that the teacher can spend with each student and also reduces the percentage or proportion of time that teachers can given to what they regard as the most important functions of the teacher.

Our evidence on this question, then, apparently should be regarded by the profession as being very beneficial. In 150 days of observation in classrooms using a taxonomy of classroom functions which provides a means for indicating the amount of time that teachers spend not only on each of twenty-one functions in the classroom but also on each of six kinds of grouping, including individual attention, we found that even in classrooms where the teacher contends that there is a very high degree of individualization of the program the average amount of time that the teacher spends in a one-to-one relationship with the typical student is 2-1/3 minutes per day. In only a handful of classrooms did we find the average teacher-student contact on an individual basis to exceed 3 minutes, and in a great many cases it was in the range of one-half to one minute per day. One has to question whether a program can truly be considered to be individualized

with these amounts of direct teacher-pupil contact. This is not to suggest that one-to-one contact is the only criterion or element for individualization of program, but we contend that it must be an important element. In our study we found that when the teacher has even one volunteer working in the classroom the amount of adult, i.e., teacher-plus-volunteer time spent on one-to-one relationships with students increases by almost four times. The teacher approximately doubles the amount of time spent with individual students when a volunteer is in the classroom and the volunteer approximately matches the teacher's amount of one-to-one contact. Obviously, this is an important alteration in the dimensions of individualization resulting from the presence of a volunteer, but I am not prepared to suggest that this comes anywhere close to satisfying the need for a greater amount of one-to-one individual attention, particularly if we are going to give serious attention to our commitment to provide a curriculum that relates to students' needs, interests, styles, and levels of learning.

The other finding that we made in our observations with the taxonomy had to do with the proportion of a teacher's time spent in those functions that are considered to be at the upper level. The taxonomy identifies a wide range of functions that include all observable tasks performed by teachers in the classroom. An accompanying manual defines the placement of individual tasks into these functions. After short periods of training we found that we were able to have classroom observers categorize the time teachers devoted to various tasks into their respective functions with an inter-observer reliability in excess of 90 per cent. The instrument then is a useful device for comparing the allocation of teachers' time on days when volunteers are present and when they are not present in the classroom. In order to determine what the profession believes to be the most professional, vital or important functions of the teacher the taxonomy and manual were presented to panels of classroom teachers, teacher educators and school administrators. The individuals in each panel were invited to establish a heirarchy for the 21 functions. We found a remarkable level of concensus both within the panels and among the three panels. As a result of this concensus task we concluded that the profession believes that both forms of planning, both forms of motivation, the initiation and consolidation of

of new learning, and maintaining the climate for learning in the classroom are considered to be the most important seven functions. These seven functions were classified as Level 1 functions. Similarly we were able to set forth the seven functions in Level 2 and in Level 3. Considering the high degree of concensus among the referees, and in the absence of any absolute standard of importance of functions, we regard the heirarchy established as a reasonable standard for judging the significance of alterations in teacher time.

Working with the teachers in three schools we established the stability of the distribution of teachers' time in regular sessions and after a prolonged series of visits began to document the amount of time given to each of the functions in regular sessions and in sessions when regular volunteers were present in the classroom. Some of the conclusions of the study show important effects of the presence of volunteers. The most important outcome was that when even a single volunteer was present teachers appeared to make a natural transfer of time so that an additional 21 per cent of their time was transferred from lower level functions to Level 1 functions. We found that in regular sessions, in spite of their position in the heirarchy only 19 per cent of teacher time was allocated to Level 1 functions. This figure rose to 40 per cent on the days when volunteers were present. This transfer of time, of an additional 21 per cent to Level 1 functions, roughly parallels the findings of the famous Bay City Study of paraprofessionals in which it was found that the teacher who uses a paraprofessional transfers approximately 23 per cent of his or her time to additional Level 1 tasks. We also found that the amount of time the teachers spend on Level 2 tasks, which include adding content to structure, diagnosis and prescription, active supervision, the designing of test instruments, consolidating content, remedial teaching and the interpretation of scores was not greatly altered as a result of volunteer activities in the classroom. Only two of these activities showed marked reductions, namely active supervision and consolidating content. Incidentally, these two functions include some of the largest allocations of volunteer work in the classroom and are the two greatest consumers of teachers' time. It follows that the greatest amount of transfer to Level 1 functions was from

Level 3 functions. The amount of teacher time spent in Level 3 functions is reduced from 25 to 10 per cent when volunteer help is at hand.

Some other more specific observations concerning allocation of teacher time indicate the possibilities of improving instruction in the classroom dramatically by helping teachers deliberately to reorganize the allocation of their time. For example, we found that in spite of the high ranking given to the initiation of new mental structures the average teacher was devoting only three per cent of his or her time to this function. Other observations were even more startling. We found, for example, that the average teacher spends more time on consolidating content, i.e., drill and review, and taking up work, than is spent on the total of the Level 1 functions. Similarly almost as much time is spent on active supervision in regular classrooms as is spent on the total of the Level 1 functions. More time is spent on passive supervision than on any two Level 1 functions combined. These observations concerning the typical allocation of teachers' time suggest that there are many activities of the teacher that with effective volunteer help and additional organizational experience and training on the part of teachers, could be assigned to other personnel in order that teachers could spend an increasing amount of their time on those functions that are truly professional and which relate most strongly to student growth. Incidentally, our findings on the typical allocations of teacher time run parallel to the findings of Hillsum reported in his new book The Teacher's Day. Using a somewhat different taxonomy, Hillsum found that approximately 26 per cent of the typical teacher's day was spent on all types of instructional tasks, 40 per cent on organizational and preparatory work, and 34 per cent on clerical and mechanical duties and supervision.

The evidence in our studies concerning the transfer of teacher time invites, naturally, the question of how the volunteers allocated their time among the various functions in the classroom. We found that the greatest deployment of volunteer time was in non-skilled technical tasks, with large amounts of time also given over to activities that were representative of the functions entitled consolidating content and active supervision. The most common single task performed was listening to students read, which was included in the function "consolidating content". Suprisingly enough

eight per cent of the volunteers' time was actually spent in Level I functions, mostly in the areas of specific planning and specific motivation.

In view of the effects of volunteer help, as documented in our study, on providing for individual attention in the classroom and on the reallocation of teacher time we contend that volunteer help in schools is not only an interesting innovation in the school but may itself become the catalyst for other innovative practices. In the many schools in which we work we find no scarcity of good ideas about innovations on the part of the teachers. Almost every teacher is able to identify a number of organizational or curricular changes that would improve the program of the classroom or school. When tested on the constraints that are preventing these innovations from being practised most teachers point to problems of teacher time or teacher manpower. Considering the number of volunteers available in most communities, along with the evidence that we have collected concerning possible effects of volunteer work in schools, we believe that volunteering may itself provide a means of closing the teacher-time and manpower gap in schools.

Our initial interest, that of the possible alteration of parental attitudes has proven to be a somewhat difficult one to access accurately. In all our evaluations we have treated the question of changes in volunteers' attitudes as one of the most important elements. We are able to say that almost without exception our instruments indicate an alteration and improvement in parents' statements about their attitudes. To what degree parents are able to present deliberately a more favourable picture of attitudes after a period of time in the school is not known to us, but we believe that even their inclination to speak more positively about their own role in the school and about their improved perception of the school is interpreted by most teachers as a positive change. The question of whether the apparent changes in parents' attitude have a direct effect on the improvement of their own children's achievement in school is as yet not adequately evaluated. In schools where we have compared the changes in achievement on the part of students of volunteers and children of non-volunteers we can find no clear distinctions, but, as stated at length later in this address, significant but similar growth gains were recorded for both

groups. It seems probable that the changes in achievement will have long-term rather than short-term characteristics, and probably will be reflected more in the affective than in the cognitive areas. In view of the relative weakness of instruments used to evaluate the affective domain in schools we are at a loss as yet to establish clearly the effects of improved or apparently improved parental attitudes on their own children's achievement.

On the other hand, we have increasing amounts of positive information concerning the improvement of parents' insights about the school and about learning. Many of the parents can both describe and demonstrate improvements in their skills as parent-teachers. Most of them express greater understanding and appreciation of the wide range of tasks performed by the teacher. Many parents remark on the diversity of needs that must be met in classrooms. An increasing number of parents become involved at home in school-related instructional tasks. In fact our centre prepared the parents' manual which some of you have examined as a means of providing for parents of primary children opportunities to instruct their youngsters in school-based curricula at home. We advise parents who use this manual to work on a one-to-one basis with their child for approximately ten minutes a day. This seems like a minimum amount of time, and one would question whether it could be expected to have any important effects until one considers that 10 minutes a day at home actually more than quadruples the amount of adult-child direct one-to-one contact during that day.

Turning now to our broader range of volunteer programs, I must state that our first efforts in implementing a general model for a comprehensive volunteer program several years ago was in a very limited number of schools in which we worked closely with the staff to explore, alter and implement the plan. The general model, which is available on request from the Niagara Centre of O.I.S.E., has now been applied in a very large number of schools in the province.

Following the testing of the general model we became involved in a number of special extensions and adaptations of the model, each designed to test its potency in meeting particular school needs. Some of these adaptations would be applicable in almost any school while others may be of value in only a limited number of environments.

At Fessenden Public School in Ancaster the teachers considered their prime need to be opportunities to meet together for curriculum development. We assisted them in developing and adapting a volunteer plan designed to give the teachers two hours per week for regular curriculum development. We had no difficulty in recruiting far more people than were required to provide for the supervision of classrooms that would be essential for this program to operate. Most of the concerns that we all had initially proved to be groundless. Parents working alone or in twos or threes quickly became effective classroom supervisors. Discipline problems that were anticipated simply did not materialize in most classrooms. Teachers quickly learned to reorganize their own time and to help pupils define tasks that they could work on during the periods of parent supervision. By the midpoint of the initial year the staff had successfully implemented its program so that they could engage on a regular basis during school time in curriculum development. No loss in students' growth patterns came to light in the evaluation of the program.

The staff of St. Daniel's Separate School in Hamilton showed concern about the needs for identifying and meeting the needs of a larger number of youngsters with special education problems and at the same time for integrating these students into the regular program of the school. This school already had a successful comprehensive volunteer program. We found that it was relatively easy to alter this program to meet the needs in special education defined by the staff. The principal and the special education teacher were in charge of the broad design of the program. Volunteers assisted in a number of ways in relieving teachers for time to prepare pupil profiles, and to provide the special education program with the drill, review and other forms of consolidation that actually represented the major part of the teacher's work with the special education students. In the process of developing this program teachers identified almost three times as many youngsters requiring special education programs as in the previous year. The arrangements for special education on the part of these youngsters were so well integrated into the school program that many of the parents were quite unaware of the existence of such programs within the school. In particular the stigma attached to special education seemed almost completely to disappear.

The most radical adaptation of our general model was applied in Victoria Public School, an inner city school in St. Catharines. Bearing in mind the changes in individual attention and in the allocation of teachers' time to various levels of functions described earlier, we wished to explore the outer extremes of this tendency. In order to explore this question we recruited and assigned twenty-five volunteers to work with one teacher in a regular grade I classroom. These parents worked one half day per week, so in effect we added $2\frac{1}{2}$ adults to the classroom at any point in time; in other words the adult manpower in the classroom was increased from 1 to $3\frac{1}{2}$ persons. The program was carefully monitored with control classes and pre- and post-test results for the more important stated objectives of the school. In addition to adding the manpower to the classroom we deliberately assisted the teacher in identifying the important functions in the classroom and of learning to reorganize her time so that she was working most of the time at those functions which related most strongly to pupil growth. The teacher tried out various strategies for the reorganization of the classroom and found that the most effective way of communicating to the volunteers and at the same time ensuring that students were working at their level of readiness was to have an individual pupil progress book in which she wrote assignments each day that volunteers were to carry out with the individual students and in which the volunteer would record statements of the individual's progress. Toward the end of the year an observation of the allocation of the teacher's time indicated that she was spending approximately 80 per cent of her time on three main functions, organizing the continuum for learning, determining the student readiness for the next phase in the continuum and initiating the new concepts that the pupils were to learn. Practically all other activities of the classroom were gradually taken over by the volunteers. These included adding content to the existing mental structures, review, drill, listening to students read, marking and supervising arithmetic, helping children with arithmetic problems, passing out and collecting materials, running off seatwork material, etc. The observer team found that the volunteers themselves were engaged over 70 per cent of their time in tasks that clearly were instructional, a surprising outcome in the light of my own and Hillsum's findings on <u>teachers'</u> limited time allocations to instruction. The amount of one-to-one attention that each pupil derived from this program was in-

creased many times over the usual situation; at times the increase in individual attention was greater than ten-fold.

It is perhaps not surprising to learn, then, of remarkable increases in student growth in such a program. The evaluation of student growth in this adaptation is documented in our report entitled Using Volunteers in Schools. The graphs show that the youngsters made dramatic gains over the control classes in all of the measured objectives, with the greatest gains made by children in the middle of the class. The average gain of the class in reading comprehension was 2.0 years with somewhat lesser gains in other important subject areas. An independent study was made of the patterns of growth that could be attributed to the culture and it was found that the pupils grew only .6 years in those elements that were attributable to the culture at large. One would be hard pressed to find another classroom in Ontario that has documented the kind of growth gains established in this program. Considering the saturation of volunteers in this classroom and the amount of external leadership given one has to ponder whether such a radical adaptation could be implemented in many or most classrooms. However, a modification of this program, with a reduced number of volunteers in the classroom and with some broad attention to in-service developments of teachers which relate to reorganization of teacher time should be possible in a large number of schools. Another major outcome of such an adaptation may be radically altered expectations or perceptions of the rate of student growth when enriched instructional patterns are provided. Incidentally, the pupils in this classroom not only grew more rapidly in stated school objectives, but received instruction in additional curriculum components, including a number of the strands in our centre's primary thinking program.

Another of the adaptations that we have explored involved the possible use of a corps of parent volunteers working with the entire primary division of a school in order to enable the staff to regroup all pupils at the primary level in the language arts program in keeping with the readiness level of the student. Obviously such a plan calls for additional time for teachers to be able to work together on program planning, regrouping and frequent evaluation. Also needed are large blocks of additional adult time to help individual students with the language arts program, and in particular

with oral reading. Our attempt to apply this adaptation in a primary school has met with something less than complete success. We were able to recruit a large number of parent volunteers, but the staff has shown an inclination to use their services for a wide range of general supportive assistance rather than allocate the additional adult time to their original commitment of integrating and individualizing the language arts program. We interpret this weakness in the study as evidence of a fairly low commitment toward the goals of the project and not as evidence that the volunteer program is incapable of meeting this special adaptation. It is our intention to try this adaptation again, this time with the staff of a junior school who have already identified the need for integration of the language arts program. We believe that the volunteer program has the capability of providing the two additional resources needed for the successful integration of the language arts program in either a primary or a junior division.

In Ontario schools there have been relatively few attempts at formal approaches to differentiated staffing. We contend that a plan for differentiated staffing should include one level for volunteer work. We have been working closely with the staff of a secondary school which has broken the traditional line-and-staff organization and has eliminated the position of department heads in subject areas in favour of three deans who work with the principal in administrative leadership and are supported by the team of teachers, a group of paraprofessionals, and a broad corps of volunteers. Our interest in this model is to develop a system for describing the range of functions performed by each of the levels and to determine the proportions of time spent in each function by each group.

In order to deal with some of the legal, administrative and political aspects of bringing in a major innovation such as a comprehensive volunteer program we are working with six principals in one county in a plan which we entitle a League of Innovative Principals. We have found that by sharing ideas and responsibilities the principals themselves feel more secure about establishing volunteer programs. Incidentally, because they are working as a team they have been able to obtain larger proportions of the time of program consultants and administrative officials. Similar leagues would be useful support systems for other kinds of school innovations.

Innovative practices usually attract large numbers of visitors. A recent change in Ontario regulations provides every teacher with up to twelve days for professional development and we foresee the likelihood that some of our more prominent volunteer programs will be swamped with visitors in the year or two ahead. In order to provide lighthouse situations which will influence the rest of the staff in the particular school and in the jurisdiction, as well as provide opportunities for visiting teachers, we are helping one school system to establish thirty lighthouse classrooms for volunteer work. These thirty classrooms will all be in one county, and each classroom will have at least ten volunteers, each working one-half day per week. In other words in each classroom we will in effect have doubled the adult manpower. Incidentally, in the jurisdiction in question, Halton, a suburban county between Hamilton and Toronto, a large-scale approach to volunteer programs has been conducted in the past year with the result that the county now has over 1,600 parent volunteers working on a regular basis one-half day per week. This part of the volunteer program alone thus adds the equivalent of 160 full-time workers to the school staff in the county.

Most of our own studies of volunteer assistance have started with parent volunteers for the reason given earlier, namely the evidence in the Plowden Research Study indicating the correlation between parental attitudes and student achievement. However, any system which wishes to explore fully the role of volunteers in its schools must identify many other pools of talent including students at high schools and universities, elderly people, people in the professions, arts and business, and others. In one of our projects in the past year we have begun to explore the possible use of secondary school students as volunteers in nearby elementary schools. This project involves three different plans. In one of them the high school students identify the kinds of services they would be willing to volunteer to the local elementary schools, and the teachers in the elementary schools apply for these services. In another school, requests from local elementary schools are posted and students in the secondary school apply to meet the needs identified in the elementary school. In each of these two programs about 100 students from the secondary school in question assist in 8 or 10 nearby elementary schools. In most cases it is required that the student negotiate with his teachers for the volunteered time. It is suggested that

the student endeavour to find relationships between his volunteering and units of study in one or more of his secondary school subjects. The third plan for using secondary school students as volunteers takes place on an exchange between a secondary school and a bilingual elementary school. One of the difficulties of providing high school Oral French programs that will meet the needs of bilingualism espoused by our society is the failure of the culture to provide reinforcement for the Oral French program. In order to meet this need and at the same time to provide additional resources for the teachers and students in the bilingual elementary school, approximately 50 secondary school students of Oral French were recruited to work as volunteers in the primary grades of the bilingual school. At the present time the secondary school students are communicating in French over 80 per cent of the time that they are in the elementary school. We intend to evaluate the three student volunteer programs in terms of the advantages to all three parties concerned, the secondary school student, the elementary school teacher, and the elementary students. On the basis of studies done elsewhere it is reasonable to suggest that the greatest gains, particularly in the affective area, will be made by the volunteering students.

Our experiences with a wide range of volunteers in schools lead us to identify three somewhat different forms of volunteer help. Secondary school students and parent volunteers, particularly in the primary grades, are commonly referred to as regulars because they provide their services on a structured basis, usually one-half day per week. In general they work with the same teacher or teachers and perform a similar spectrum of classroom tasks. A second corps of volunteers and the one which historically is oldest in use, is what we call the on-call corps -- persons in the community, usually parents, who assist the school with specific short-term needs, either of a supportive or an instructional nature. The third pool of volunteers, one which is used most widely in secondary schools, is what is termed the Talent Bureau -- a corps of parents and professional and business persons whose experience, background, ethnic origin, business, artistic or professional experience, or some other feature enables them to provide the school with a valuable resource. Generally the school maintains a file of these persons, who are then called on periodically for specific assistance related to the particular interest and competency of the volunteer. A number of secondary

schools include several hundred persons on the Talent Bureau.

Without wishing to deny the very significant contributions made by the on-call corps and talent bureau corps, or to deny the significant potential contribution to be made by a wide range of volunteers, our evidence suggests that the potential advantages of parents who serve on a regular basis in the school, indicate they should receive prime attention in any plan for a volunteer program in the school.

The title "Help or Hindrance?" causes me to return once again to some of the problems revealed in volunteer programs. By far the greatest amount of difficulty with volunteer programs is clearly the result of the lack of a comprehensive plan developed or implemented by the school staff, and in particular a plan which puts teacher readiness well ahead of recruitment in both time and priority.

In the long run probably the most serious problem in volunteer programs has to do with a particular aspect of parent and teacher behavior; our observations indicate that volunteers are even more inclined than teachers to give students ready answers to questions instead of causing the students themselves to discover these answers; in the process they deny the very autonomy and independence in learning that should be a major objective of instruction. For this reason, and for reasons of confidentiality, attendance, teacher security, etc. it seems reasonable to propose that one or two short instructional sessions with volunteers who work on a regular basis should be provided.

Volunteer programs will probably continue to appear to be a hindrance to some teachers, and particularly to those who cannot resolve problems of insecurity or of lack of organizational training and ability. There is no doubt that in the initial stages volunteer programs actually cause teachers more rather than less work, because a teacher has to add the organization of the volunteer's activities to his or her own planning. Unless the teacher is able to learn ways of reorganizing adult time in the classroom, the teacher is unlikely to continue to use volunteers. The continuing use of volunteers by almost all teachers in our studies probably indicates that the teachers who have made use of this resource, were already more secure and flexible, and better organized than most of their non-participating colleagues.

We believe that in order to capitalize on the potential long-range values we must consider three special features of a plan for a comprehensive model for volunteer programs in schools which ordinarily would not be thought of by the school staff, or might seem even to run counter to a principal's initial perception of a volunteer program. First of all, we contend that recruitment should be as open as possible in order that we can maximize the potential for enhancing the attitudes of as broad a range of the parent population as possible. We believe that selective recruitment policies which tend to bring into the school only those parents who already have positive attitudes toward the school or who are already perceived as being loyal friends of the school, will fail to capitalize on the potential that we visualize in volunteer programs. Secondly, having argued for open recruitment we would recommend that all those who volunteer be assigned initially to a broad spectrum of relatively low level jobs in the classroom. Then, as their abilities and reliability are demonstrated, they should be deliberately promoted to more challenging tasks in the classroom, and to tasks which bring them in closer contact with individual students. The basic training is provided as needed by the teacher, so that in due time in the classroom it is observed that both the volunteer and the teacher are performing and sharing a wide range of classroom functions. We believe that the restricting of volunteers to a narrow range of low-level supportive tasks runs counter to the best interests of a volunteer program. Similarly, any formal decision not to permit volunteers to engage in instructional functions merely sets up a theoretical dichotomy that cannot be applied in practice, and if it could, would deny both the volunteer and the pupil the greatest benefits of the program. Thirdly, unless the volunteer program itself capitalizes on the motivations of volunteers one could not expect it to succeed or to have any permanent structure. Our studies of the motivations of volunteers indicate that there is an important difference between their initial motivations and those that emerge after two or three months in the program. Initially, much of the motivation for being a volunteer in a school has to do with curiosity about school programs, and particularly curiosity about the progress of the volunteer's own youngsters in the school; with other volunteers the motivation seems to be little more than faith in the

statement of the school that volunteer help is required. A few months later however a similar survey of volunteers' attitudes reveals motivations and rewards that relate more closely to feelings of worth, satisfaction, and accomplishment, a sense of making a worthwhile contribution, pleasure in opportunities to work with adults, insights into instructional practices, pride in seeing evidence of student growth influenced by their work, etc. Unless the program permits these types of motivation to be developed, volunteers are not likely to stay. Whimsically we suggest an ideal model for quietly getting rid of a volunteer program should this ever be necessary; all the principal would need to do is to reallocate the volunteers to playground duty and lunchroom supervision. The notion that volunteers should be recruited merely to do the jobs that teachers do not wish to do fails to recognize the motivations and resources of volunteers. The long-term success of the program depends on the principal's ability to dovetail classroom needs with the motivations of volunteers.

As suggested earlier the greatest obstacles to the development and maintenance of comprehensive volunteer programs in schools have to do with the security of principals and teachers. However, teachers are aware of the need to spend more time on professional functions in the classroom and to spend more time with individual students. Unless we develop plans and strategies for reducing the obstacle of the insecurity of teachers and thereby making it possible for teachers to accept other adults who will share in their activities, the opportunity to improve the quality of the classroom experience for our youngsters will be denied. Fortunately in Ontario new regulations from the Ministry and a new policy statement from the Ontario Teachers' Federation have helped to reduce the insecurity at official levels. Everything possible should be done at the jurisdictional and local school level to extend these intentions into the life of the school and the classroom. In conclusion, considering the evidence provided concerning the improvement of student growth in the short range and the possibility of improved student achievement in the long run as a result of improved parental attitudes; the evidence of the natural transfer of teacher time to higher level professional tasks and the possibility that, with deliberate attention, much greater efforts in this direction could be made;

and at the same time recognizing the fact that there is a vast pool of uptapped talent that might not only make a contribution to the school but might at the same time develop more positive attitudes in the community towards the school and improved insights and competencies on the part of parents and other adults, we are prepared to contend that no school and certainly no school system can continue to ignore the potential in volunteer programs.